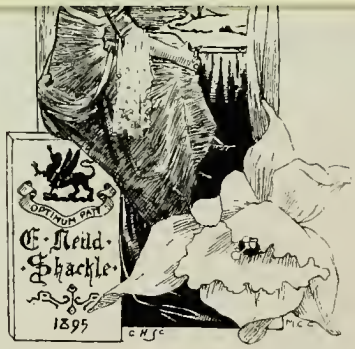

ELEMENTS

OF

MEDICAL STATISTICS;

CONTAINING THE SUBSTANCE OF

The Gulstonian Lectures

DELIVERED AT

THE ROYAL COLLEGE OF PHYSICIANS:

WITH NUMEROUS ADDITIONS,

ILLUSTRATIVE OF

THE COMPARATIVE SALUBRITY, LONGEVITY, MORTALITY, AND PREVALENCE OF DISEASES IN THE PRINCIPAL COUNTRIES AND CITIES OF THE CIVILIZED WORLD.

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PREFACE.

MUCH has been done towards an illustration of the Medical Statistics of various Countries, Cities, Towns, and Hospitals, and excellent essays have been made on some separate branches. A great variety of important single facts has been gradually exhibited, by writers engaged on their own particular topics, by medical and other journals. Many of these, from their fugitive form, or insulated situation, have been neglected or forgotten; and *Reports*, which had been matured with severe labour and disinterested patience, have sometimes appeared valueless, because unaccompanied with the materials of comparison. We naturally turn away from the mere register of occurrences which does not seem to tend to establish a principle, or to contain the elements of generalisation.

But a favourable moment is, perhaps, at length arrived for arranging these scattered fragments into the rudiments of a system, and for comparing together, in close apposition, the documents afforded by different countries and institutions,

which at present lie far asunder. No one can be more deeply aware than myself of the difficulties, and even dangers, of the subject; of the dubious authenticity, and frequent fluctuation of the necessary details; and of the precarious nature of any general principles attempted to be framed out of facts, which have, for the most part, endured the test of only a few years, and which have only recently become the object of enquiry or scrutiny. But an extensive assemblage and classification of such facts possess an historical and local value, whatsoever may be the fate of the reasonings deduced from them.

Independently of the light which this study throws upon Medical Science, it affords the most valuable illustrations of the history, manners, and customs of mankind, and a just criterion of the progressive or retrograde movements of society. Political philosophy can make few steps without an occasional recourse to its aid, and none at all without a reference to its stores, on explaining the principles which regulate the population of states. Malthus, who may be in some degree considered as the father of that subject, from the maturity to which he has reared it, remarks, that "we may promise ourselves a clearer insight into the internal structure of human society from those enquiries. But the science may be said yet to be in its infancy, and many of the objects, on which

it would be desirable to have information, have been either omitted, or not stated with sufficient accuracy."* Some of these deficiencies have been partly supplied since the time when they were pointed out by this distinguished writer, and others are at present occupying the attention of medical practitioners and political philosophers in various parts of the world. I should be amply rewarded if the present humble essay should form a temporary repository of the most important of their labours; if it should become one of the early milestones on a road which is comparatively new, rugged as yet and uninviting to the distant traveller, but which gradually discloses the most interesting prospects, and will at length, if I do not deceive myself by premature anticipation, largely recompense the patient adventurer.

I am not aware of the existence of any work in the literature of Europe which treats the subject in all its parts, or which takes so extensive a range as the present; a circumstance which will doubtless form the best apology for any inaccuracies or omissions, inseparable from a first attempt to sketch the outlines of a system. In 1792 *Finke*† published at Leipsic a system

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* Essay on the Principle of Population. 6th ed. i. 19.

† Versuch einer Allgemeinen Medicinisch-praktischen Geographie. 3 vols. 8vo.

of Medical Geography, elaborated with minute industry from the scanty materials afforded by that period, but divided under the heads of different countries and cities, not aiming at classification, comparison, nor general views, and inapplicable to the present time. Professor *Berard** of Montpelier has lately published a valuable lecture delivered at the opening of his Course of Hygiene, in which many of the most important facts of Medical Statistics are enumerated and generalised: it has repeatedly enriched the following pages. Tommasini†, the eminent professor of Bologna, is, I believe, the only author who has written a particular essay on the necessity of applying Statistics to illustrate the practice of medicine.

It would have been easy to have trebled the size of this volume, but to many it will already appear too long, and the actual demand for this sort of knowledge would scarcely warrant a greater trial of patience: if a favourable reception should afford me an opportunity of extending it, I shall seek to supply some omissions which are at present unavoidable, and others which a first experiment rendered prudent.

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* Discours sur les Améliorations Progressives de la Santé Publique par l'Influence de la Civilisation. Paris, 1826.

† Della Necessita di sottopere ad una Statistica i fatti piu importanti della Medicina Pratica. Bologna, 1821.

I have endeavoured to avoid fatiguing the reader, and overloading the page with constant references; but every remarkable fact is traced to its source, and a sufficient number of authorities are cited throughout to form even a *Bibliography* of the subject.

As this essay does not aspire to the character of original composition, but is merely a *collection*, I beg to make one general acknowledgment of the numerous instances in which entire sentences have been copied from various writers. The gratification of the reader would have been often diminished by any alterations of expression, and the attempt would only have violated the genuineness of a relation, or have diluted the strength of an argument.

Golden Square,
March, 1829.

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ELEMENTS

OF

MEDICAL STATISTICS.

CHAPTER I.

UTILITY AND HISTORY OF THE SUBJECT —COMPARISON BETWEEN THE VALUE OF LIFE IN ANCIENT AND MODERN TIMES.

THE word *Statistics* appears to have been first used about the middle of the last century by Achenwal, a professor at Göttingen, to express a summary view of the physical, moral, and political condition of states. Many important facts, which belong to the domain of statistics, had been published long before this appellation had been applied to them.

But some of the details thus collected for general purposes, were found to throw light upon health and disease; and, on the other hand, it was often necessary to have recourse to medical authorities, in order to elucidate various

points of the general picture. A combination of these scattered features forms *Medical Statistics*, an elementary specimen of which it is the object of the following pages to present. We may perhaps define it, in a few words, to be the application of numbers to illustrate the natural history of man in health and disease.

The *probability* of life, and the *mean* life, are two expressions which often occur in such enquiries. By the *probable* life is understood the age to which one-half of all who are born in a particular country or city attain. The *mean* life implies the result of adding together the number of years attained by a given number of persons, and of dividing the sum total among each of them in an equal proportion.

Statistics has become the key to several sciences, opening in a manner the most convincing, simple, and summary, their gradual progress, their actual condition, their relations to each other, the success which they have attained, or the deficiencies which remain to be supplied. Its application to the objects of government has created political economy; and there is reason to believe, that a careful cultivation of it, in reference to the natural history of man in health and disease, would materially assist the completion of a philosophy of medicine, by pointing out to the physicians of every part of the world the comparative merits of various modes of prac-

tice, the history of disease in different ages and countries, the increase and decrease of particular maladies, the tendency of certain situations, professions, and modes of life to protect or to expose; and by indicating, as the basis of prognosis, those extended tabular views of the duration and termination of diseases, which are furnished, at successive periods, by hospitals and civic registers.

Medical statistics affords the most convincing proofs of the efficacy of medicine: it is one of the easiest arguments that can be employed to refute the vulgar notion (and one sometimes carelessly countenanced by medical men), that nature is alone sufficient for the cure of disease, and that art as frequently impedes as it accelerates her course. The powers of self-restoration are in no diseases more conspicuous than in fever. But if we form a statistical comparison of fever treated by art, with the results of fever consigned to the care of nature, we shall derive an indisputable conclusion in favour of our profession.* Hippocrates has left a frank and explicit statement of the history and fate of forty-two cases of acute disease, in which it does not seem that any therapeutical plan was adopted, if we except glysters and suppositories in a few, and blood-letting in one. Amongst these were

* Blane, Select Dissertations.

thirty-seven cases of continued fever, without local affection. Of the thirty-seven, twenty-one died, above half of the whole. But if we examine the returns of the Fever Hospital of London, we find (in 1825) that the total mortality was less than one in seven; and half of these deaths occurred within seventy-two hours of the admission of the patients, — a circumstance which indicates that several entered at a period of disease when the hope of recovery was extinct. In the Dublin Fever Hospital we find a still lower mortality: the average from 1804 to 1812 was one in twelve: and in the clinical wards at Edinburgh, in 1818, the mortality of fever was also about one in twelve. Of five cases of local inflammations, which Hippocrates records, four were fatal; of all his forty-two patients, in short, twenty-five were lost: a termination which throws no shade over his skill, but only brings to light his love of truth. The mortality belonged to the age, and not to the physician; and we may reasonably infer, that under other practitioners of his time and country, it was even more severe. It is curious to observe, that of the five cases of local inflammation, the only one which survived was the solitary instance in which bleeding was employed, — a pleurisy. We perceive, that one out of two acute cases may recover by the almost unassisted efforts of nature, but that under the medical protection of our own age and country,

six out of seven, or even eleven out of twelve, are likely to survive, according to the period of the disease at which they are placed under treatment.

Medical statistics alone enables us to form an estimate of the influence of various mechanical improvements on the air of certain districts. The town of Portsmouth, for instance, is built upon a low portion of the marshy island of Portsea: it was formerly very subject to intermittent fever; but since it was paved and drained in 1769, this disorder has no longer prevailed; while Hilsea, and other parts of the island of Portsea, retained the aguish disposition until 1793, when a drainage was made, which subdued its force. * The population of Portsmouth has progressively increased, and yet its salubrity has maintained an equal pace. The mortality in 1800, was one in twenty-eight; in the next census of 1811, it had declined to one in thirty-eight; at the same time that the mortality of Plymouth amounted to one in twenty-eight.

No documents remain to inform us of the rate of mortality, or of longevity, amongst the Greeks. A few facts on these points have descended respecting the Romans. In a small tract of country, in the reign of Vespasian, fifty-four persons were enumerated who had at-

* Blane, Select Diss.

tained their 100th year, forty who were between 100 and 140, and two individuals who had lived above a century and a half: a calculation which is highly favourable, but which only relates to a particular rural district. If we were inclined to attach any weight to Lucian on this subject, his testimony might be produced: in his Καταπλους, he informs us, that, out of 1000 persons who died, 398 were above sixty years of age; but this was probably a vague assertion, hazarded in the humour of the moment, since it is totally opposed to the statements of Domitius Ulpianus. This earliest authority on the subject of longevity was a lawyer in the reign of Alexander Severus, of whom he became the secretary and principal minister. From the want of hospitals among the Romans, from the humble condition of their medical attendants, from their gross sensuality, inactive habits, abuse of the bath, and manner of dress, as well as from the unhealthy state of their situation (which even then appears to have been a source of alarm), we might have anticipated that longevity would not be common; and the authority of Ulpian corroborates the opinion. According to him, registers of population, puberty, age, sex, disease, and death, were kept with exactness by the censors, from the time of Servius Tullius to Justinian, and comprehend a period of ten consecutive centuries. But, unfortunately, these registers embrace the

citizens of Rome alone, and not that large part of the population composed of slaves. The inferenccs to be drawn from them relate accordingly to select, or *picked* lives, and not to the mass of society. From observations formed on 1000 years, the expectation, or mean term of Roman life, has been fixed at thirty years. To make a just comparison of the value of life in Rome and in England, we must select subjects in England similarly circumstanced, of a condition relatively easy : and the result discloses an extension of life remarkably in our favour. Mr. Finlayson has ascertained, from very extensive observation, on the decrement of life prevailing among the nominees of the *tontines*, and other life-annuities granted by authority of Parliament, during the last forty years, that the expectation of life is above fifty years for persons thus situated, which affords our easy classes a superiority of twenty years above the Roman citizen. The expectation of life for the whole mass of Britain is at least one in forty-five, which affords to all our classes a superiority of fifteen years above even the easy classes of the Romans.

The mean term of life among the easy classes of Paris is at present forty-two, which gives them an advantage of twelve years above the Romans.

It appears that the probability of life to the *whole* population of Florence, is the same in the

present century as that of the easy classes of Rome in the third century.

The following appear to have been the probabilities of life among the Roman citizens in the third century of the Christian æra.*

From Birth to 20 years of age,	30 years.
20 to 25	28
25 to 30	25
30 to 35	22
35 to 40	20
40 to 45	18
45 to 50	13
50 to 55	9
55 to 60	7
60 to 65	5

It is interesting to compare with these results the conclusions of Finlayson indicated above. At twenty years of age, Finlayson affords a probability of forty years. At forty he allows twenty-nine, and at fifty so many as twenty-two. At sixty, Finlayson admits fifteen. And as the documents of Ulpian appear to afford no sufficient data beyond the age of sixty-five, we may infer that the number of Romans who passed that period was not very numerous; whereas the proportion of such in our own country is large; and, indeed, throughout Europe at present, since

* Berard, Discours sur les Améliorations, &c. p. 69.

Blumenbach asserts, that, after an accurate examination of many bills of mortality, he has ascertained a remarkable fact, that a considerable proportion of Europeans attain their eighty-fourth year, while, on the other hand, few exceed it. *

In more modern times, the observances of the Christian religion appear, alone, to have revived the registry of births and burials. After the foundation of churches and monasteries, lists were composed of those who were baptized and who died in the Christian faith; and such appears to have been the later origin of statistical tables, relating to the physical and moral history of man. The ravages of the *plague* seem to have impressed on the ministers of Henry the Eighth the necessity of accurate registers of the burials in every parish.

At Geneva, good mortuary tables have been preserved since 1560, and the results are in the highest degree curious and satisfactory. It appears that, at the time of the Reformation, half the children born did not reach six years of age; in the seventeenth century, the probability of life was about eleven and a half years; in the eighteenth century, it increased to above twenty-seven years. We arrive at the remarkable conclusion, that, in the space of about three

* Institutiones Physiologicæ.

hundred years, the probability of life to a citizen of Geneva at his birth, has become five times greater. The *mean life* was thus, in one century, eighteen years; in the next, it grew to twenty-three; in the middle of the next, it rose to thirty-two; and, finally, during the present century, from 1815 to 1826, it amounts to thirty-six years.

The first of the *continued* weekly bills of mortality extant at the Parish Clerks' Hall in London, begins in 1603, the first year of the reign of James the First; since which period, an uninterrupted account has been maintained; and as they appear to have been originally undertaken during the pressure of the *plague*, so, after some discontinuance, they were permanently renewed under another severe visitation of the same evil. These bills now contain ninety-seven parishes within the walls, seventeen without the walls, twenty-nine out-parishes in Middlesex and Surrey, and ten parishes in the city and liberties of Westminster; but the great extension of London since 1660 renders them imperfect: the parishes of St. Marylebone, and of St. Pancras, are not included. Another deficiency is the absence of any account of the births and deaths among the dissenters from the established church. These points might be easily remedied; but a more difficult task, in the present state of our medical police, would be to improve the

actual manner of ascertaining the mode of death of every individual. The *sworn searchers*, whose office is to *visit* and to *view* every corpse, are persons of no medical knowledge; they are dismissed with a gratuity, and are satisfied with the first answer given to them by the relatives of the deceased. Nevertheless, these registers afford some approximation to the truth. Compared with each other through a long series of years, they throw considerable light on the fluctuations of disease, on the influence of weather, and on the retrograde or progressive state of the public health. Under an improved arrangement, they might prove in a high degree auxiliary to the medical sciences, to the police of health, and to political philosophy.

Captain John Graunt, of London, has the honour of being the first writer who ever directed the attention of the world to the comparative births and deaths of different cities, years, seasons, sexes; to the comparative mortality of disease; to the proportion of births to deaths; and to the relation of the *town* to the *country* in these respects. In his work, entitled "*Natural and Political Observations upon Bills of Mortality*," which was first published in 1661, he displays a singular genius for observation, in a field where no footstep can be traced before his own. He was really the creator of the new science of *Statistics*.

The most industrious labourer who followed him in the same mine, was Süssmilch, whose celebrated and often-quoted work belongs to the department of Natural Theology, but abounds in all the official and other tables which that period afforded. *

The gradual accumulation of registers in the principal states of Europe, had furnished a large stock of materials, but the fruit was not as yet sufficiently ripe to afford a valuable harvest. His object seems to have been rather to draw certain general conclusions, which apply to the whole civilised globe taken in mass, than to estimate the comparative degree in which various countries and cities enjoy, or are deficient in, health and longevity. He adopts the idea of Montesquieu, and many early writers, that Europe requires laws to favour the propagation of the species, and that it is one of the principal duties of governments to attend to the number of marriages.

Süssmilch estimates the nearest average of the mortality of all countries, taking towns and villages together, as one in thirty-six. Büsching, a celebrated geographer, makes it, about the same period, from one in thirty-two to one in

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* Göttliche Ordnung in d. Verändd. d. Menschl. Geschl. a. d. Geb., d. Tod. u. der Fortpflanz dess. erwiesen. Berlin, 1742.

thirty-seven. About eighty years have now elapsed since then; and a surprising improvement in the physical condition of man has progressively developed itself. In almost every civilised country of Europe, we find every succeeding ten years produce a smaller annual proportion of deaths; and in Britain the value of life is nearly doubled, if we compare Büsching's rate of one in thirty-two, with the actual rate afforded in 1821, of about one in sixty.

Dr. Odier of Geneva, in the fourth volume of the *Bibliothèque Britannique;* and Dr. Heberden, junior, in his valuable "*Observations on the Increase and Decrease of different Diseases,*" published in 1801, appear to be the first writers who had the merit of disclosing this improvement in life in their respective countries. Sir Gilbert Blane, Mr. Rickman, and Mr. Finlayson, in England, Dr. Villermé in France, and Dr. Casper in Germany, have subsequently laboured with zeal in the same path of enquiry; and have obtained results the most interesting to human nature, because uniformly agreeing in its tendency to improvement. Their statements rest on demonstrated conclusions, and not on the conjectures and questionable inferences with which the ordinary reasonings on the natural history of man abound. Great obligations are also due to the *Edinburgh Medical Journal,* and to the Geo-

graphical Section of the *Bulletin Universel,* for the various information and reasonings which they have afforded in every branch of medical statistics.

CHAP. II.

PROGRESSIVE CHANGES AND PRESENT STATE OF MORTALITY IN GREAT BRITAIN. — ILLUSTRATIVE TABLES.

The earliest account of mortality in England relates to the plague, which spread from the north-western parts of Asia over all Europe, and reached England in 1349. In some parts of the kingdom, two-thirds or more of the inhabitants were carried off; but, on the average, one-half was computed to have perished.

We have no data for the mortality of Britain during the following centuries; but, in 1695, a tontine was created by Parliament, called the Million Act; and Mr. Finlayson has deduced, from observations on the mortality which took place among the nominees, that the mean duration of life at birth was about thirty-seven years, reckoning from 1695; but above fifty-two years, reckoning from 1789. At ten years of age it was thirty-eight from the first period, but forty-eight from the second. At fifty years of age it was seventeen from the first, but twenty-two from the second. The persons upon whom the calculation is made are select lives, taken from

the middle ranks of society; but, as they are similar cases, the comparison must be admitted to be fair. But a corresponding change in the health and duration of life of the total mass of society has equally occurred: this is easily deducible from a comparison of the census taken every ten years. In 1780, the annual mortality of England and Wales was 1 in 40. In 1790, it diminished to 1 in 45. In 1801, it continued to diminish, but not at the same rate; it became 1 in 47. The moderate improvement of this census is the effect of the scarcity by which England was afflicted in 1795 and 1800. In 1811, the reduction in deaths proceeds: the annual amount is 1 in 50, or 1 in 52; and finally, in 1821, the yearly mortality sinks to 1 in 60, or 1 in 58 (which last proportion Mr. Rickman considers to be nearest to the truth); so that, on the whole, it has decreased from 1 in 40, to 1 in 58, nearly one-third in forty years. The mortality of the several counties in England alone ranges between 1 in 47 and 1 in 72; Middlesex and Sussex being the two extremes. In Wales, Pembrokeshire, and Anglesey, have only one death yearly in eighty-three individuals, which is the lowest genuine rate of mortality that has been published in any part of Europe. But even in Middlesex, where the rate is higher than in any other county, let us remark the change which

has supervened in only 10 years: in 1811, it was 1 in 36; in 1821, eleven more lives are added, to make 1 in 47. The mortality of every county is mainly influenced by the proportion of large towns which it includes; thus, the mortality of Hampshire, which has several such, is 1 in 58; but in Sussex, where they are less numerous, it is only 1 in 72; and in Cornwall, for a similar reason, only 1 in 71. Kent, Surrey, Lancashire, Warwickshire, and Cheshire are the counties where, next to Middlesex, the deaths are most numerous. Kent is subject to ague; more than half the population of Surrey live within the walls of the metropolis; Lancashire and Warwickshire are counties which enjoy advantages from nature, but these are counterbalanced by their large manufacturing towns.

In Lincolnshire, the amount is only 1 in 62, although it is particularly the seat of ague; but this moderate share of mortality is probably due to the large proportion of dry and elevated districts to the fenny; if not to the circumstance which Dr. Wells has remarked, that phthisis pulmonalis is but little observed in places infested with the exhalations which produce intermittent fever.*

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* Blane, Select Dissertations.

But the decline in the mortality is even more remarkable in our cities than in the rural districts. While the metropolis has extended itself in all directions, and multiplied its inhabitants to an enormous amount; or, in other words, while the seeming sources of its unhealthiness have been largely augmented, it has actually become more friendly to health. Not only its comparative mortality is greatly diminished within the last half century, but its absolute mortality in respect to preceding centuries.* In the year 1697, for example, the total deaths were about 21,000; whereas, a hundred years after, in 1797, the amount was only 17,000; and when we consider the great increase of the inhabitants of the out-parishes at the latter period, the change in the health of London will be seen in a powerful light. But it is singular that this healthy condition seems to have been particularly produced within the last 50 or 60 years; during the very period in which it has most rapidly enlarged its limits and its population. In the middle of last century, the annual mortality was about 1 in 20; it is now (or by the census of 1821) about 1 in 40. So that, in the space of 70 years, the chances of existence are exactly doubled in London; which is a progress and final result without a parallel in the history of

* Bateman, Reports on the Diseases of London. 1819.

any other age or country. The annual mortality in the year 1700 was about 1 in 25. It seems to have increased from that time to 1720; to have attained its highest point from 1720 to 1750; and from that period to the present to have maintained a constant and gradual decline. Its increase about the middle of the last century has been attributed to the great abuse of spirituous liquors, which was at length checked by the imposition of high duties. In 1801, the decrease was to 1 in 35; or, if the returns are corrected according to Dr. Price's estimate of omissions, 1 in 30. In 1811, we find 1 in 38; and there is every reason to imagine that in the next census, which will be taken three years hence, the annual number of deaths in London will not exceed 1 in 42. One city alone, in Europe or in England approaches to London in the value of life proportionately to its size. It is the second in England in number of inhabitants, the seat of manufactures — Manchester. The mortality of Manchester was, about the middle of last century, 1 in 25; in 1770, 1 in 28. Forty years after, in 1811, the annual deaths are diminished almost beyond belief, to 1 in 54; but the improvement does not stop even there, for in 1821, they appear to become still fewer, although the population has been quadrupled during the 50 years through which the deaths have so diminished. It is due to the memory of

Dr. Percival and Dr. Ferriar, that we ascribe a large share of this improvement of health to certain regulations of police, particularly with respect to ventilation, recommended and introduced by them into Manchester.* Liverpool and Birmingham have made a considerable progress since 1811, but they fall infinitely short of Manchester. In 1811, the annual deaths of Liverpool were 1 in 30; in 1820, they were 1 in 40. The average of Birmingham, in 1811, was 1 in 34; in 1821, it was 1 in 43.

In discussing the mortality of manufacturing towns or districts, it is just to remark that the small proportion is not always *real;* because a constant influx of *adults* is likely to render the number of deaths less considerable than that which would occur in a stationary population composed of all ages.

The following Table of the Baptisms, Burials, and Marriages in England, during twenty years, has been formed by Mr. Rickman: —

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* Blane.

NUMBER OF BAPTISMS, BURIALS, AND MARRIAGES.

YEAR.	BAPTISMS.			BURIALS.			MARRIAGES.
	Males.	Females.	Total.	Males.	Females.	Total.	
1801	120,521	116,508	237,029	101,352	103,082	204,434	67,228
1802	139,889	133,948	273,337	99,504	100,385	199,889	90,396
1803	150,220	143,888	294,108	102,459	101,269	203,728	94,379
1804	150,583	144,009	294,592	91,538	89,639	181,177	85,738
1805	149,333	142,868	292,201	91,086	90,154	181,240	79,586
1806	147,376	144,553	291,929	92,289	91,163	183,452	80,754
1807	153,787	146,507	300,294	97,996	97,855	195,851	83,923
1808	151,565	144,509	296,074	102,614	98,149	200,763	82,248
1809	152,812	147,177	299,989	97,894	93,577	191,471	83,369
1810	152,591	146,262	298,353	104,907	103,277	208,184	84,470
1811	155,671	149,186	304,357	94,971	93,572	188,543	86,389
1812	153,949	148,005	301,954	95,957	94,445	190,402	82,066
1813	160,685	153,747	314,432	93,726	92,751	186,477	83,860
1814	163,282	155,524	318,806	103,525	102,878	206,403	92,804
1815	176,233	168,698	344,931	99,442	97,966	197,408	99,944
1816	168,801	161,398	330,199	103,954	102,005	205,959	91,946
1817	169,337	162,246	331,583	101,040	98,229	199,269	88,234
1818	169,181	162,203	331,384	107,724	105,900	213,624	92,779
1819	171,107	162,154	333,261	106,749	106,815	213,564	95,571
1820	176,311	167,349	343,660	104,329	104,020	208,349	96,833

On account of the acknowledged omissions in the registers of deaths in most of the parishes of Scotland, few just inferences can be drawn from them. In the parish of Crossmichael, in Kirkcudbright, the mortality at the close of the last century was published as only 1 in 98; a proportion which would imply the most unheard-of healthiness; but there can be little doubt that it was principally occasioned by defects in the registry of interments. From the returns of 99 parishes, which alone were given in the Population Abstracts of 1801, it appears that the average mortality was 1 in 56; and if the details were just,

Scotland might at that period boast of the least considerable number of deaths ascertained to exist in any country. We have seen that in 20 years subsequent, England has attained to a still more favourable proportion; and I have not been able to ascertain how far Scotland has kept pace with her. The expectation of an infant's life in Scotland was, in the middle of last century, 31 years at birth, when calculated for the whole country; but in some parishes it was 40 and 46.

In the peculiar circumstances of Ireland, it would be very interesting to know the average mortality. But, unfortunately, no correct parochial registers have been kept; and the information, however much to be desired, is unattainable.

The following Table of the Annual Baptisms, Burials, and Marriages of the several Counties of England, has been formed by Mr. Rickman, on an average of the ten years from 1811 to 1821:—

ANNUAL PROPORTIONS.			
One Baptism to	One Burial to	One Marriage to	COUNTIES OF
36	62	131	BEDFORD.
34	58	145	BERKS.
35	56	144	BUCKINGHAM.
32	58	126	CAMBRIDGE.
36	55	136	CHESTER.
34	71	151	CORNWALL.
34	58	154	CUMBERLAND.
35	63	153	DERBY.
32	61	127	DEVON.
36	66	154	DORSET.
34	55	143	DURHAM.
35	59	150	ESSEX.
37	64	119	GLOUCESTER.
38	63	170	HEREFORD.
34	58	179	HERTFORD.
35	63	132	HUNTINGDON.
31	50	130	KENT.
32	55	126	LANCASTER.
36	59	133	LEICESTER.
32	62	138	LINCOLN.
38	47	106	MIDDLESEX.
47	70	154	MONMOUTH.
33	61	136	NORFOLK.
36	58	134	NORTHAMPTON.
38	58	145	NORTHUMBERLAND.
33	58	133	NOTTINGHAM.
35	61	153	OXFORD.
36	62	148	RUTLAND.
35	58	155	SALOP (Shropshire).
37	63	149	SOMERSET.
32	58	117	SOUTHAMPTON (Hampshire)
32	56	128	STAFFORD.
35	67	139	SUFFOLK.
40	52	148	SURREY.

ANNUAL PROPORTIONS.			COUNTIES OF
One Baptism to	One Burial to	One Marriage to	
33	72	151	SUSSEX.
37	52	123	WARWICK.
35	58	155	WESTMORLAND.
37	66	145	WILTS.
34	56	143	WORCESTER.
33	57	127	YORK, East Riding.
36	63	151	Do. North Riding.
35	61	131	Do. West Riding.
35	57	133	ENGLAND.
41	69	156	WALES.
35	58	134	

To explain the rate of increase of the population of England, the female sex is chosen, as it affords a more accurate standard, from the circumstance of being less exposed to the influence of immigration and emigration.

FEMALES.

1801.	Increase *p. Cent.*	1811.	Increase *p. Cent.*	1821.
5,492,354	14 or 14.02	6,262,716	$15\frac{4}{5}$ or 15.82	7,253,728

The following Tables of the Number of Individuals living at various Ages are formed by Mr. Rickman from the census of 1821, and relate to a supposed given proportion of 10,000 males, and 10,000 females: —

MALES.

	Under 5 Years.	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 and upwards.
England (collectively)	1538	1343	1169	988	1470	1155	941.0	665.6	447.6	221.9	56.25	4.15	.12

FEMALES.

	Under 5 Years.	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 and upwards.
England (collectively)	1444	1268	1056	995	1684	1210	932.6	653.3	458.0	228.2	64.85	5.75	.22

MALES.

	Under 5 Years.	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 and upwards.
WALES (collectively)	1514	1407	1210	1009	1433	1109	871.4	646.3	474.8	243.6	74.09	7.54	.09

FEMALES.

	Under 5 Years.	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 and upwards.
WALES (collectively)	1382	1281	1093	1003	1560	1163	911.6	672.6	535.5	281.4	104.76	10.95	.50

MALES.

	Under 5 Years.	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 and upwards.
SCOTLAND (collectively)	1494	1357	1247	1032	1490	1095	895.4	649	458.1	216.3	58.22	6.71	.43

FEMALES.

	Under 5 Years.	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 and upwards.
SCOTLAND (collectively)	1294	1177	1057	1048	1769	1204	937.9	711.6	502.2	225.5	65.18	7.42	.60

Ages of the Inhabitants of *London* arranged under the same divisions. *Fractions are omitted below* 90.

	Under 5 Years.	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 and upwards.
Males	1397	1095	936	865	1718	1548	1203	730	353	128	22	1.69	.21
Females	1216	995	834	959	2062	1567	1092	690	388	156	34	3.93	.32

CHAP. III.

THE SUPERIOR SALUBRITY OF GREAT BRITAIN PROVED BY A GENERAL COMPARISON WITH OTHER COUNTRIES.

On the continent of Europe, we find that changes in the duration of life have been experienced, similar in nature, and following the same laws, as those of our own country, but very inferior in degree. In France, for instance, the annual deaths in 1781 were 1 in 29 for the whole population; in 1802, they were 1 in 30; in 1823, they were 1 in 40. In Paris, about the middle of last century, the mortality was 1 in 25. At present it is about 1 in 32. As far back as the 14th century, M. Villermé has calculated from some manuscript documents that it was 1 in 16 or 17; and if the authority is good, this last is a most interesting fact, as it is almost the only statistical fragment which remains to characterise that early age. In Sweden, we find that from 1755 to 1775 the annual deaths were 1 in 35; from 1775 to 1795, they were 1 in 37; and, finally, in 1823, they had diminished to 1 in 48. And thus the annual mortality of Berlin

was 1 in 28 from 1747 to 1755; but less than 1 in 34 from 1816 to 1822.

Since the late peace, the principal governments of Europe have paid much attention to statistics, and we possess very instructive returns from nearly all the countries, cities, and hospitals on the Continent. A comparison of these results enables us to submit a very interesting conclusion, and one which we are not aware to have been as yet generally received, namely, that the mortality of Great Britain, its cities, and its hospitals, is greatly inferior to that of any other country in Europe; and that it is incontestable that Great Britain is at present the most healthy country with which we are acquainted; and that it has been gradually tending to that point for the last 50 years. In the comparisons which we shall have occasion to make, in order to support this assertion, we shall carefully abstain from reproducing the tables of remote periods, which have been often previously discussed, and shall be confined to the most recent and genuine details. It is remarkable, that this superior value of life in Great Britain is not confined to any particular districts, or classes of individuals. To whatever point we turn our view, the advantage is still the same: the man of affluence, the pauper-patient of the hospital, the sailor and the soldier on active service, the prisoner of war, the inmate of a gaol, all enjoy a

better tenure of existence from this country than from any other of which we have been able to consult the records. It has been long the fashion, both abroad and at home, to exhaust every variety of reproach on the climate of our country, and particularly on the atmosphere of London; and yet we shall find that the most favoured spots in Europe, the places which have long been selected as the resort of invalids, and the fountains of health, are far more fatal to life than even this great metropolis.

If we compare the total mass of Britain with the entire population of any other nation of Europe, the superiority is equally marked. The annual deaths on the average throughout England and Wales are nearly 1 in 60. The country which approaches most nearly to us is the Pays de Vaud, where the mortality is 1 in 49. Sweden and Holland have at present the same standard, namely, 1 in 48. The next on the list is France, where one inhabitant dies annually in 40, a proportion precisely similar to that of London. The kingdoms of Prussia and Naples follow after; they range between 33 and 35; the kingdom of Wirtemberg is also at 33.

The annual proportion of deaths at Montpelier was greater 30 years ago, and is greater at present, than in London; and although the mortality of great cities is usually much larger than that of provinces or counties, yet the mortality

of London is exactly the same at present as that of the department of the Herault, the southern and fertile, and long supposed most salubrious district of France, of which Montpelier is the capital. Finke, a German writer who wrote on medical geography in 1792, speaks with surprise and reprobation of the custom which then prevailed in England of sending invalids to the south of France; and declares that the cutting winds of those quarters annually destroyed many of those wanderers in quest of a milder sky.

The annual mortality of Nice, though a small town, and enjoying a factitious reputation of salubrity, is 1 in 31; of Naples, is 1 in 28. Leghorn is more fortunate, and sinks to 1 in 35. We instance those places as being the frequent resort of invalids; but how astonishing is the superiority of England, when we compare with these even our great manufacturing towns, [illegible]; such as even Birmingham, 1 in 43; or even this overgrown metropolis, where the deaths are only 1 in 40. But if we take indiscriminately the other great cities of Europe, their inferiority in respect to the value of life is equally pointed; in Paris, for instance, the annual deaths are about 1 in 32, in Lyons and Strasburg the same, in Barcelona the same: Berlin approaches a little nearer to London, it reckons 1 in 34. Madrid loses 1 in 29. Rome, Amsterdam, and Vienna, are last in the scale of

life; in Rome the deaths are annually 1 in 25; at Amsterdam they are so numerous as 1 in 24, and at Vienna 1 in $22\frac{1}{2}$: we perceive that the inhabitant of London has almost a twofold advantage in this respect.

CHAP. IV.

MEDICAL STATISTICS OF COUNTRIES.

It is generally calculated that the 20th part of every population is labouring under illness, and that the 100th part has some severe disease. If this were a fact certain, and applicable to every country, we should possess an easy standard for comparing the number of cures; but every season, every successive year, and even the influence of political events, are continually producing a fluctuation in the amount of sickness and of recovery.

FRANCE.

A great variety has always existed in the physical constitution of the natives of the different provinces of France, accordingly as they approach the Flemish, Gascon, Norman, or Breton race. The operation of the conscription has brought to light a great diversity in their height, their capability of supporting the fatigues of war, and in the number and nature of the diseases which were produced as pleas of exemption from service i the respective districts.

The state of the population in France, formed on an average of the 6 years from 1817 to 1823, presents the following results (*Revue Encyclopédique*, 1825–6) : —

		Among 1000 of whom occur
Mean population	30,319,444	
—— annual marriages	218,917	7·23
—— births	957,876	31·59
—— male	494,227	16·30
—— female	463,649	15·29
Legitimate births	892,677	29·44
Illegitimate births	65,199	2·15
Total deaths	764,848	25·23
—— male	386,453	12·75
—— female	378,395	12·48
Increase of the population	85,255	6·36

This calculation may be considered doubly correct, because it is verified, and some errors of the press corrected in the Bulletin Universel.

About half the children born live to twenty years, and about a third to 45 years.

The lowest annual mortality is at the age of 10; it is then only 1 in 130. At the age of 40 it is 1 in 53.

The probability of life to a man of 40 is 23 years.

The number of men of the age of 20 to 21 is about 260,000.

M. Villermé has ascertained that the mortality increases amongst the poor, and diminishes to the affluent. In the wealthy departments of France, life is, on the average, protracted twelve

years and a half beyond its course in those which are poor.

The least mortality occurs in France in the districts where ease and happiness are most common; as in the departments of the *Calvados*, of *l'Orne*, and *de la Sarthe*. In these one individual dies annually in 50; but how painful a contrast is presented by the twelfth municipal arrondissement of Paris, where the annual deaths are about 1 in 24.

But without taking the metropolis into comparison, let us contrast a prosperous rural district with a poor one, as the two departments of the *Calvados* and *l'Orne*, with the less fortunate ones of *l'Indre* and *le Cher*.

In the two rich departments scarcely one fourth of a given number of individuals die before 5 years of age. One half die at 45, three fourths are dead at 70.	In the two poor departments one fourth die before completing the first year. One half between 15 and 20, three fourths at 50 in one department, and before 55 in the other. *

Such is the influence of condition, or the absence of fatigue and privation on the frame, that during the eight years from 1816 to 1823 the mean height of young men fit for military service has been found to be in *Paris* 5 feet,

* At least such was the case in 1821, according to Villermé.

2 inches, and $1\frac{1}{2}$ lines, but only 5 feet, 1 inch, and $9\frac{1}{2}$ lines for the suburbs of Sceaux and St. Denis. The same fact has been ascertained in the department of the Rhone, where a similar disproportion exists between the inhabitans of Lyons and of its suburb Villefranche, from 1806 to 1810.

PRUSSIA.

The following is the mean return of the seven years from 1816 to 1822. The average of each year presents,

Inhabitants - - -	11,017,022
Marriages - - -	110,238
Total births - - -	478,069
Illegitimate births - -	33,925
Deaths - - -	30,542

One birth amongst thirteen was illegitimate, but in the proportion of 1 in 12 in towns, and 1 in 16 in the country.

Since 1822, a new census has been taken for 1825, which affords the following results : —

Inhabitants -	12,255,867
Of whom were -	4,487,009 below 14 years of age.
——— -	7,010,240 from 14 to 60 ———
——— -	758,618 above 60 ———

The females were less numerous than the males in the first period, but more numerous in the second and third.

At the end of 1824 the entire population was estimated to exceed rather than to fall short of twelve millions. The average *yearly* increase, during the nine years, from 1816 to 1824, was more than 172,100, making a total of 1,549,109 in that period. This increase is owing to the greater number of births, to the diminished mortality, and to the settlement of strangers. The *immigration* compared with the *emigration* affords a yearly excess of 38,000 individuals, on an average of seven years. According to the present annual increase, Dupin considers that the population would double itself in twenty-six years.

The mortality of Prussia is about 1 in 35. In 1817, 1 male died in 33, and 1 female in 36; and of the legitimate children, 2 in 10 died during the first year, of the *illegitimate*, 3 in 10. Mr. Kunth ascribes the present improved condition of mortality to the cheapness of provisions since 1819, in addition to the improvements in medical and moral institutions. On the contrary, during two years of high prices, 1816 and 1817, the mortality increased and the births diminished.

The number of marriages in 1817 was ascertained to be greater than occurs in other countries, 1 in 94. This circumstance is probably founded on the great facility of obtaining a *divorce*, which in that year allowed 1 pair in 37

to change their partners. The proportion of divorces has, however, slightly decreased from that year to 1823, when it was lower by about one tenth.

The births were, in 1817, 1 in $23\frac{1}{3}$ of the whole population. The number of illegitimate births, as well as of divorces, seems to experience a small progressive diminution of late years; in 1816, 1 subject in 312 was illegitimate; in 1819, 1 in 349; in 1821, it was 1 in 323.

A great increase in the number of *Jewish* inhabitants has been recently observed. They amounted in 1817 to above 127,000; in 1824 they had increased to nearly 150,000, an augmentation of above 21,000 in 7 years. During the five years from 1820 to 1824, it is pleasing to find, that more than 500 Jews have become converts to Christianity. A Berlin newspaper endeavours to explain their rapid growth by a greater fecundity, and an inferior mortality of their race; it adds a cause more susceptible of proof in an increasing proportion of their illegitimate births.

The total number of physicians, surgeons, and others employed in the practice of medicine, including those engaged in pharmacy, was 15,987, for the whole of Prussia, in 1824.*

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* Uber die Med. Statist. Verhältnisse der Med. Personen zu der Bevölk. im Preuss. St. bey Casper. Berlin, 1826.

BAVARIA.

In the kingdom of *Bavaria* Rudhart states the mortality of the *Circle* of the *Iser* at 1 in 29, and that of the *Circle* of the *Upper Mayn* at 1 in 38. One seventh of the whole population inhabits the cities of the first and second order; the other six sevenths inhabit the country and the small towns. The population appears to be least considerable wherever the seignorial properties are the most numerous; one circle only out of the seven affords an exception.*

KINGDOM OF HANOVER.

During the year 1823, 52,807 children were born. The number of still-born infants in that year was 2021. Amongst the 52,807 children 4063 were illegitimate. The deaths were 32,220, the marriages were 12,317. The population is rapidly increasing under an excellent government.

AUSTRIA.

Professor Kudler, who has particularly devoted himself to the statistics of the southern part†, observes, that according to the present

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* Uber den Zustand des Königreichs Baiern. Stutg. 1825.

† Steyermärk. Zeitschrift. 1821.

progress of the population in *Hungary*, it would require 150 years to double itself, in the Lower Austria 176 years, in Bohemia 230 years, in Gallicia 248 years, and in Moravia (comprehending the Austrian Silesia) it would require so much as 296 years in which to double itself. Styria, from the great variations in its population, does not admit of a similar computation. These are remarkable facts, and throw much comparative light on the slow progress of some parts of Austria towards prosperity. In some provinces of Austria the anomaly is presented of a greater number of female births than of male. This is not the case, however, in the Lombardo-Venetian provinces. The average number of individuals to each family in Styria is 5. The number of marriages in Styria has latterly suffered a slight diminution from temporary want. In 1803 there were 100 marriages amongst 586 inhabitants, in 1820 there were 100 to 608 inhabitants. The mean duration of a marriage is in Styria from 22 to 23 years. The average of births in 1819 and 1820 is in the proportion of 1 to 25 inhabitants. About a sixth part of all the births is illegitimate. A remarkable diminution of mortality is perceptible in Styria, as in most other countries.

In 1812 the deaths were			29,206.
In 1817	—	—	28,008.
In 1819	—	—	21,162.
In 1820	—	—	19,451.

In general, the male deaths exceed the female in Styria, as elsewhere. The proportion is usually 50 male to 49 female deaths. The mortality of Styria (taken solely amongst those who are registered for the *Conscription*) is 1 death annually in 38 inhabitants. The average number of inhabitants to a house is about four.

We have dwelt longer on this province from the circumstance of its remoteness, simple habits of life, and general freedom from foreign intermixture.

KINGDOM OF THE NETHERLANDS.

The change in the duration of life, which has taken place in the kingdom of the Netherlands, has rendered the old tables of the probabilities of life formed by Kerseboam insufficient for actual use. Mr. Quetelet has recently constructed a new scale for the Netherlands with great care, and his enquiries have brought to light some curious facts.

Mr. Quetelet has found, universally in the kingdom, that the mortality is the greatest in those parts which are the most populous, the nearest to the sea, where the ground is most low and marshy. The value of life in Holland seems to have increased since the middle of last century, when Süssmilch makes the annual deaths of 39 villages of Holland about 1 in 23; and at present we find the mean average for the whole kingdom 1 in 48. The births are 1 to 27.

ICELAND.

From the report transmitted by the Bishop of Iceland to the Danish government it appears that the births in that island amounted in 1819 to 1326; there were also 33 still-births. Among the 1326 births, 564 were male, and 576 female: 186 were illegitimate. The deaths in the same year amounted to 1264, 622 of the male sex, and 642 of females: 42 of the deaths were occasioned by accidents, of which 31 were persons drowned. The population is about 48,000.

Among the 1264 deaths not one individual had exceeded 100 years of age. Of the 17 deaths between the age of 90 and 100, 11 were women, and 6 men. The same advantage on the side of the females subsisted between the age of 70 and 90. 152 deaths were from the age of 60 to 70.

SWEDEN.

The population in 1823 amounted to 2,687,457. The births in 1823 were 98,259, of which 7210 were illegitimate. That list does not include 2539 still-born. Among 99,322 women in labour 1422 had twins, and 27 had triplets. Among the deaths in 1823, only 5 persons died above 100 years of age, of whom one was a man, and *four* women. The marriages were 23,993, amongst which ten men married for the fourth

time, one for the fifth, and one for the sixth time. The number of women who had borne children from the age of 45 to 50 was 1462, and beyond the age of 50 were 53. The total number of physicians and surgeons in Sweden was lately only 391, and in Norway 118.

Amongst the deaths enumerated for the whole kingdom in 1823 are 428 children accidentally smothered by mothers and nurses. Persons drowned 1060. Persons frozen 43. Deaths from intoxication 43. Deaths by accidents that cannot be described 576; exclusively of numerous deaths from suffocation by charcoal fires.

DENMARK.

In the year 1822 there was 1 illegitimate birth to every 12 births for the whole kingdom, but in 1823 so many as 1 to every 11.*

In respect to the number of deaf and dumb in Denmark, we find 64 in the institution of Copenhagen in 1824, of whom 40 were boys, and 24 girls. There were also in Zealand 109, in Laaland and Falster 17, in Funen 58, and in Guttand about 90. In Sleswick, also, an institution exists which admits 75.

The proportion of still-births was in 1826 1610 to 38,316 other births.

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* Messager Français du Nord, Oct. 1825.

FINLAND.

The births in the grand duchy of *Finland* were in 1823 49,168, of which 747 were twins, 18 triplets, 3023 illegitimate, and 1192 still-born. The deaths in the same year were 29,578; so many as 15,251 were below the age of 10 years, 2231 were between the age of 10 and 25, 4265 between 25 and 50, and 9821 were above the age of 50.*

RUSSIA.

The returns formerly afforded by Russia presented such extraordinary results, that it was impossible to receive them without considerable suspicion. It seems to be generally believed, that in the statistical accounts which have been occasionally sent forth a certain degree of colouring was admitted; a few objects protruded, and others thrown into shade; as when in the progress of the Empress Catherine through her provinces artificial villages were created in the distance to amuse with an image of prosperity. About the year 1768 the total mortality of the empire was estimated by Hermann at about 1 in 60. It would be tedious to enumerate the causes which confused or falsified the lists at that period. After 1796 they were better kept. The real

* St. Petersburg. Zeitschrift. 1825.

sum of annual deaths appears at present to be 1 in 41, according to an authentic report published by the synod of the Greek church, which includes the most numerous part of the population.

The tables of *longevity* repeatedly published in Russia are regarded with distrust*; as it appears to have been only in 1764 that Catherine II. enjoined a certain form of registering baptisms and burials. Edicts had been previously issued, but had not been obeyed; and even at this moment it is asserted that very few of the provincial priests are capable of making the necessary entries.†

CANTON DE VAUD.

In the *Canton de Vaud* in 1825 the births were 4974 (23 more than in 1824), the deaths were 3310 (46 more than in 1824), and the marriages were 1248 (108 less than in 1824). About one seventh of all the births were still-born. The deaths at the age of 70, and above, were 46 men and 53 women; at the age of 80, and above, 60 men and 43 women; at the age of 90, and above, 8 men and 18 women.

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* Bulletin Universel, section Géographique, t. i. p. 448. 1824.

† During the four years, from 1823 to 1826, 50,980 persons died suddenly throughout the Russian empire.

VENETIAN PROVINCES.

An official statement has lately been published, under the sanction of the Austrian government, of the statistics of the provinces called Venetian, including Venice, Vicenza, Padua, Treviso, Polesina, Bellona, Verona, and Friuli.*

As the climate of Italy is often a subject of discussion, we shall extract from this memoir the

Greatest heat of these provinces 28° (Reaumur).

Mean — — — 10°. ——

Greatest cold is 9° in some of the mountainous districts; 15° and even 18°.

The heat and cold are always higher at Venice than at Padua.

The following is the state of weather observed at Padua during three years. The proportion of days was

	Serene.	Rain and Snow.	Cloudy and variable.	Quantity of Rain.
In 1821	154	68	143	24 9·7
1822	186	55	124	17 4·8
1823	141	74	131	24 3·8

The number of inhabitants is 274 to the square mile (of 60 to a degree).

The average proportion of annual births is about 1 in 22;

* Quadri. Prospetto Statistico delle Provincie Venete. Ven. 1826–7.

Marriages, 1 in 107;
Deaths, 1 in 28.

In 1815, 1816, 1817, a scarcity prevailed, and, accordingly, the births and marriages diminished, and the deaths increased. In 1817 the mortality amounted even to nearly 1 in 14. The proportion of the poor are estimated at 1 in 26; but the term is not to be applied in the same general sense as in England. The number of children exposed is as 1 in 321 of the whole population. The population in 1766 was 361,491 families; in 1827 it had increased to 397,098 families: a trifling augmentation, which marks the adverse fortunes of Italy.

KINGDOM OF THE TWO SICILIES.

Quattromani states in his *Itinerario delle due Sicilie* *, that, for the whole of that kingdom,

The mean temperature is 11° 18′ (Reaumur);
The greatest heat is - 31°;
The greatest cold (on the mountain Ariano) is 8° below zero.

The following is a comparative view of the mortality, births, and marriages of the kingdom of the Two Sicilies during three recent years: †—

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* Napoli. 1827.

† Annali Universali di Statistica. 1826.

	Deaths.	Births.	Marriages.
In 1822	1 in 35	1 in 24	1 in 111
1823	1 in 33	1 in 24	1 in 110
1824	1 in 27	1 in 23	1 in 127

AMERICA.

Perhaps it may be not uninteresting to compare the conditions of life in the United States with those of the southern parts of America. Here, as in the north of Europe, with respect to the south, we find a considerable superiority. Mr. Bristed states the average annual deaths throughout the United States at 1 in 40 (which is precisely the rate observed in France). In the healthiest districts of the United States it is 1 in 56; and in the most unhealthy 1 in 35.

The annual proportion of births in the United States has been estimated at 1 to 20 individuals. The proportion of males to females is 26 to 25.

With respect to the physical statistics of a *tropical climate* Humboldt has furnished some curious particulars: they are the only important ones which have been published. The vices of the mother-government had been introduced into *New Spain*, and particularly a very unequal distribution of landed property: these, and the circumstance of a very large part of the population being Indians in a distressed state, and inferior in industry and energy, had long retarded

the progress of its population. During the last half of the eighteenth century the excess of births above deaths had become very great. Humboldt found the mean proportion of about 100 burials to 170 baptisms. But the proportion of deaths was very remarkable; and these numerous births and burials show in a striking point of view the early marriages and early deaths of a tropical climate, and the more rapid passing away of each generation.* In one district the annual mortality was 1 in 26, in another it was 1 in 29; but the average for the whole kingdom of New Spain was 1 in 30 annually; which is a greater proportion of deaths than now occurs in any country of Europe with whose details we are acquainted.

AFRICA.

The following table of the births and deaths at the Cape of Good Hope is interesting as it relates to Africa, and as displaying the proportion of each, during a series of years, among the white and black population. It was printed in 1826 by order of the House of Commons. The total population amounted to 81,964 in the year 1812, and to 105,336 in the year 1820.

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* Malthus.

IN THE YEARS	CHRISTIANS.				SLAVES.				TOTAL OF	
	BIRTHS.		DEATHS.		BIRTHS.		DEATHS.			
	Male	Female	Male	Female	Male	Female	Male	Female	BIRTHS.	DEATHS.
1812	523	528	226	229	78	66	149	72	1425	811
1813	686	706	292	177	188	234	141	91	2156	888
1814	802	825	242	238	230	183	189	93	2363	960
1815	888	894	287	193	221	193	185	123	2540	974
1816	805	892	305	207	325	294	210	112	2723	1090
1817	918	927	320	227	487	467	264	143	3195	1206
1818	814	832	340	247	516	482	270	152	3058	1277
1819	810	815	340	224	506	509	255	118	3001	1251
1820	881	898	375	264	463	464	248	130	3124	1406

ISLE OF BOURBON.

The *Isle of Bourbon* presents some curious facts respecting the different rate of births and deaths which prevails among the French colonists of that island, the free blacks, and the slaves. Mr. Thomas, who has passed eight years there, and who has occupied an official situation, has lately obtained a prize from the Academy of Sciences at Paris for his statistical researches on this island, which occupy three folio volumes. The French colonists (or whites) increase very rapidly; not by the arrival of new-comers (of whom the annual average is only a fiftieth), but by the great excess of births over deaths, which is in the proportion of about 9 to 5. The births are to the whole population in the proportion of 1 to about $24\frac{1}{2}$, and the annual deaths are 1 in $44\frac{8}{10}$; a mortality inferior to that of the kingdom of France. One birth is illegitimate among $7\frac{2}{3}$.

The marriages are 1 to 100 individuals, and the average of births to each marriage is $3\frac{6}{10}$. It has been supposed, that in warm countries more girls are born than boys; but the Isle of Bourbon affords a contrary result, since, during the six years from 1818 to 1823, a sixtieth part more has been born of boys than of girls.

The progress of the *slave* population is very opposite, and marks well the intimate connection subsisting between social position and physical developement. From 1818 to 1824 it has diminished by one sixth, and is decreasing more and more rapidly, so that the proprietors are anticipating, at a short distance of time, the necessity of cultivating less ground, and of abandoning the productions which require particular labour. So great is the mortality, and so few the births, that, according to Thomas, " il s'en faudrait de 423 individus par année moyenne, que le nombre des naissances pût reparer les pertes occasionées par la mort dans cette classe d'hommes." The black population lose, at this rate, about three per cent. annually, while the whites are annually gaining about $1\frac{2}{3}$ per cent. It must be observed, however, on one hand, that the females of the white population nearly equal the males, while among the blacks the males exceed the females in the proportion of 28 to 17; but to counterbalance this advantage, the climate must be more con-

genial to the African temperament than to the European.

Among 5069 of the free blacks, or intermediate class, the average deaths of four recent years were only 82; the average births were 213. The greater part of these births were illegitimate: the annual average of marriages was less than 23. These free blacks hold a condition in society nearly similar to that of the whites; and their superior longevity and reproduction must be ascribed to the favourable influence of liberty. Their mortality is much less than that of the French colonists, because, with advantages of comparative prosperity, they combine the occupation of a native soil.*

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* Rapport sur le Prix de Statistique decerné par l'Acad. R. des Sciences, pour l'Année 1827. Paris.

CHAP. V.

MEDICAL STATISTICS OF CITIES.

It is well known, that in any given country the deaths of a city are more numerous than those of the rural districts. This difference is principally felt in the first five years of life, when many more die in London than in the country. From 5 years of age to 20 the deaths in London are fewer. Between 20 and 50 many more die in London, on account of the large annual influx from the country. In all cities a large portion of disease and death is to be assigned to the constant importation from the country of individuals who have attained to maturity; but having been previously habituated to frequent exercise in a pure atmosphere, and to a simple regular diet, are gradually sacrificed to confined air, sedentary habits, or a capricious and over-stimulating food. These causes are not equally fatal to those who have passed their early years within the walls of a city; and after the age of 50 the proportion of deaths in London is smaller than in the country. Jenner, and very recently Dr. Baron, have made some

curious experiments on animals, which indicate that a loss of their open range and natural nourishment has with them, also, a tendency to disorganise and to destroy. Dr. Baron placed a family of young rabbits in a confined situation, and fed them with coarse green food, such as cabbage and grass. They were perfectly healthy when put up: in about a month one of them died: the primary stop of disorganisation was evinced in a number of transparent vesicles studded over the external surface of its liver.

In another, which died nine days after, the disease had advanced to the formation of tubercles on the liver. The liver of a third, which died four days later still, had nearly lost its true structure, so universally was it pervaded with tubercles. Two days subsequently a fourth died: a considerable number of hydatids were attached to the lower surface of the liver. At this time Dr. Baron removed three young rabbits from the place where their companions had died to another situation, dry and clean, and to their proper and accustomed food. The lives of these remaining three were obviously saved by this change. He obtained similar results from experiments of the same nature performed on other animals.

GLASGOW.

Mr. Cleland has published very valuable "*Statistical Tables relative to Glasgow**," from which we shall select a few particulars. During the seven years from 1816 to 1822 the average annual mortality was 1 in 46·78. During the 26 years from 1801 to 1826, the average annual deaths have been 1 to 44·41 persons.

Among the 26,109 registered burials for the six years ending with 1826, 1831 were of still-born children.

Glasgow has suffered much from typhus fever and epidemic dysentery, evils which have, probably, owed their origin or their extension to the distresses incidental to a large manufacturing population. Vaccination has reduced the general mortality, principally that which occurred under five years of age.

The details afforded in Mr. Cleland's work are more accurate, probably, than any others relating to our population, from the zeal which the authorities of Glasgow displayed in collecting them.

The average number of individuals to a family is $4\frac{681}{1000}$.

The number of children below 12 years is to the rest of the population *one fourth* $\frac{56}{1000}$.

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* Third edit. 8vo. Glasgow, 1823.

The number of persons on the average inhabiting each room is $2\frac{1}{2}$.

The number of married men compared to the other males is 21,473 to 47,521. Of married women compared to other females is 21,473 to 56,730.

PARIS.

Villermé estimates the actual mortality of Paris at 1 in $32\frac{6}{10}$. In the 17th century it was 1 in 25 or 26.

Büsching mentions in his *Geography* that about the middle of the 18th century 1 man in 25 was reckoned to die annually at Paris. In the 14th century, from facts furnished by a manuscript of that age, the mortality is calculated by Villermé as 1 in 16 or 17.

Formerly, the number of deaths considerably exceeded the births; at present, the number of births exceeds the deaths.

There are more boys born dead than girls and yet, during the first three months after birth, the deaths of boys are far more numerous than of girls.

The conceptions are most numerous, but the births least abundant, in June. March and April furnish the most numerous births; and next stand January and February.

The poor and the rich occupy the two ex-

tremities of the scale of mortality. Compare, for instance, the twelfth municipal arrondissement, where there are the most poor, with the first, where the rich are in the highest proportion. The following is a table of their deaths and population :—

Arrondissement.	Inhabitants.	Deaths in private Dwellings in				
		1817	1818	1819	1820	1821
1st.	45,854	778	787	904	863	985
12th.	66,893	1492	1679	1611	1633	1865

But this disproportion is still further increased by the greater number of inhabitants of the poor arrondissement who die in the hospitals and *hospices;* and altogether Villermé concludes that where there are 50 deaths in the rich arrondissement there are 100 in the poor one.

There is 1 annual birth to above 32 inhabitants of the rich arrondissement, and about 1 to 26 of the poor arrondissement, and notwithstanding, there are not in proportion more children from 0 to 5 years of age in the latter than in the former, because, although the poor produce more children than the rich they do not nourish them so well.

Of 9806 illegitimate children born in Paris in 1823 the enormous proportion of 7585 were abandoned by their parents. Of 100 infants thus abandoned it is found that at least six twelfths perish in the first year of their existence. In 1818, 120 died out of 133.

In 1822 and 1823, 1768 children died of the small-pox. The number of gratuitous vaccinations was 4445.

The number of violent deaths in 1823 was 690, of which 390 were cases of suicide.

Reviewing, on one side, the great political, moral, and physical events which have occurred at *Paris* during a succession of years, and on the other the progress of its population, Villermé has ascertained, that whenever the people have suffered from *any* cause, the deaths have correspondingly increased, the births have decreased, and the mean duration of life has been shortened. In periods of prosperity he has found results directly opposite to these. The mean duration of life in Paris is 32 years and some months.

It was formerly estimated, that one third of the inhabitants of Paris died in the hospitals; but Dupin has lately calculated that half the deaths in Paris take place in the hospitals and other asylums of charity. Not a fourth part of the inhabitants are buried at private cost.

GENEVA.

If we turn to Switzerland, we find the average mortality of the city of Geneva, during the four years ending in 1823, about 1 in 43; which it may be curious to compare with some of our

large manufacturing cities, such as Manchester, where the deaths were in 1811 only 1 in 74; or Glasgow, where in the 10 years from 1811 to 1820, they were 1 in 45. The deaths at Birmingham seem of the same amount as those of Geneva at the same period, although its population is four times more numerous.

ST. PETERSBURGH.

The latest returns from St. Petersburgh which yield the average of deaths, from 1813 to 1822, afford the same rate which was stated 40 years ago, namely 1 in 37 annually. It is probable that the last account is more correct than the former. The births during the ten years from 1813 to 1822 were greatly inferior to the burials, a result contrary to what usually happens under circumstances of improvement. The proportion of births was 100 to 134 burials. The Russians explain this, by the presence of a large number of persons from the provinces, who fix their abode in St. Petersburgh and die there. But this occurs also in every other great metropolis, although Petersburgh and Stockholm are, we believe, the only ones which at present exhibit this preponderance of death over production.

The mortality of St. Petersburgh appears to have been formerly too favourably estimated.

Mr. Krafft makes it, from 1781 to 1785, about 1 in 37. But there is reason to think, that in forming this calculation the deaths in the hospitals, prisons, and foundling-house, had been either entirely omitted or incorrectly delivered.

The number of deaths from *accidents* at Petersburgh was 412 in the year 1824.

BERLIN.

From 1747 to 1755, the annual mortality of Berlin was 1 in 28. Between 1796 and 1799 it improved to 1 in $29\frac{1}{11}$. Here the beneficial change was retarded by the ravages, the losses, the disappointments of war, and from 1802 to 1806 it had retrograded to 1 in 27; but from 1816 to 1822, a period of exultation and tranquillity to the Prussians, the value of life took a remarkable leap, and the annual deaths fell to less than 1 in 34.*

Extreme longevity does not appear to be common at Berlin.† During the 10 years from 1812 to 1821 only one individual died between 103 and 104 years old. Eight died during the same period between the age of 100 and 103:

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* I. L. Casper. De Vi Variolæ Vaccinæ in Mortalitatem, &c. Ber. 1824.

† I. E. Marsch. Operis de rationibus Prodromus quibus mors Berolini est censenda, Diss. I. Medico-Statistica. Berol, 1828.

24 from 95 to 100, and 116 from 90 to 95. And this was amongst a population of 190,000 (exclusive of the military). A few examples of very great age are not, however, to be considered as arguments of superior salubrity in any place, nor is the absence of such instances a proof of insalubrity: that alone is to be considered as a test of health, when a large mass of the population attain to the natural period of life.

VIENNA.

The annual mortality of Vienna was estimated in the middle of the last century at about 1 in 20. It has not improved in the same degree with several other European cities. Wertheim brought it to 1 in 24, in his *Medical Topography* of 1810. But Dr. Stelzig of Prague has very recently examined the subject, and fixes it at 1 in 22½. On an average of 10 recent years, one marriage takes place annually among 124 inhabitants, and three births occur to each marriage. The still-born are in the proportion of 1 among 25 births. On an average of 20 recent years, 338 infants die out of 1000 at the end of the first year. Among 10,530 deaths, scarcely 38 persons are found who have attained the age of 90; and an individual of 105 to 115 is hardly seen once in a lustrum.

The excessive spirit of regulation, the dread

of novelty, the restrictions imposed on the medical profession, and political causes which need not to be enumerated, appear to have retarded the natural progress of this city. The overweening *paternity* of the government interferes with the trivial concerns of the citizens, in the same manner in which an arbitrary and untaught father sometimes restrains the useful impulses of his children, while he permits an easy vent to their baser propensities.

PRAGUE.

Prague, the capital of Bohemia, contains a population about one third of that of Vienna, and is more healthy, as might be supposed. Dr. Stelzig has made some curious comparisons between the two cities. The mortality of Prague is 1 in 24½. The superior longevity of the *Jews* is strongly marked in this city: on separating the Jewish from the Christian deaths, only one death is found to occur annually among 26 Jews, but 1 among 22½ Christians. On an average of 20 years, 423 infants die out of 1000 at the end of the first year. Up to the 30th year the mortality is rather larger here than at Vienna and other capitals of Germany; but from 30 to 70 years of age the mortality is here much less. Not a year passes (according to the tables produced by Stelzig) in which among 4000 deaths we may

not find at least 50 individuals of 90 years of age, 14 of 95, 9 of 100, and nearly 5 who reckon from 105 to 115 years. In this longevity the women enjoy a superiority of $\frac{2}{3}$ over the men. The greater part of the instances of the *highest* age is here composed of individuals earning a laborious subsistence, and of married ones. According to an average of several years no nobleman, no wealthy person, no bachelor, and no unmarried woman have *passed* the age of 95. This is an interesting fact, but it is an *extreme* and an insulated one, and does not militate against the general *conservative* tendency of prosperity which a variety of evidence seems to establish. The chances of exceeding the age of 90 are $\frac{2}{3}$ greater at Prague than at Vienna.

On an average of 10 years, one marriage occurs annually at Prague amongst 138 individuals, and there are above four births to a marriage for the entire population. But a singularity again occurs with respect to the *Jewish* portion : the average of births to a Jewish marriage is here above $4\frac{1}{2}$, while that of a Christian marriage is only $3\frac{1}{2}$. The proportion of male births to female is 21 to 20, but the greater mortality of the former nearly equalises the sexes.*

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* Monatschrift der Gesellschaft des Vaterländisch. Museum in Böhmen. Januar. 1827.

PALERMO.

At *Palermo*, in 1823, the mortality was 1 in 31 ; the male deaths were most numerous up to the age of 55, but after that period the female deaths were most numerous. The deaths in private dwellings were 3964, in the hospitals 1067. January, October, and November were the most fatal months ; and April, May, and June the most healthy. The proportion of births to the whole population was 1 to 25. January, March, and October had the greatest number of births ; June, July, and August had the fewest. The marriages were 978 in a population of 164,793. The proportion of illegitimate births is 1 to 10 legitimate ones.

LEGHORN.

Doctors Gordini and Orsini have published some interesting researches into the medical statistics of Leghorn.* Their enquiries relate to the seven years from 1818 to 1825. The average number of annual births is 1 to 25 or 26 of the entire population. The total number of children abandoned by their parents during these seven years was 1281 ; and the deaths among these

* Ricerche di Statistica Medica della Citta di Livorno. 4°. Liv. 1826.

which occurred at Leghorn were only 102; but this very small proportion is only apparent, as, at the end of two or three days, the infants are transported to Pisa. The average annual mortality of the entire population (taken on the seven years) is about 1 in 35.

A curious difference appears with respect to the non-Catholic part of the population, which is composed of Protestants and Jews. Among these the annual births are only 1 in 38 or 39, and the annual deaths only 1 in 48 or 49. The less degree of mortality is explained by the greater *affluence* of this part of the population; and the less proportion of births, perhaps, depends on a principle which is not yet established, but which rests on some facts; namely, that the proportion of births diminishes in a community as it advances in civilisation and prosperity.

ROME.

In the recently-discovered fragment of Cicero (de Republicâ) an intimation is conveyed that the neighbourhood of Rome has been always unwholesome. Speaking of the choice of situation made by Romulus, he observes, "Locum " delegit in regione pestilenti salubrem."

The population appears to have been gradually decreasing until the late peace, which has gently revived it. In 1800 there were above 150,000

inhabitants, in 1810 only 123,000. Within a few years it has gained an accession of about 10,000.

On an average of the ten years from 1816 to 1825, the annual mortality is 1 in 24·76. The number of births is in the proportion of 1 in 30·23. The annual marriages are about 1 in 106. The mean number of children to a marriage is 3·30. The greatest number of poor in the hospitals is 3044 in the year 1818, and the lowest number is 1290 in the year 1824.

There can be little doubt that the force of the aguish disposition of Rome might be considerably weakened by steady and well-directed efforts supported by a proportionate capital; but it is to be feared that such a combination of circumstances will not readily meet at Rome. In 1816, 17 out of the 22 French students were attacked with intermittent fevers. The Villa Medici, in which they reside, was formerly healthy; but water brought at a great expense to embellish the garden had been suffered to stagnate there.

NAPLES.

The annual mortality of Naples has been lately estimated at 1 in $28\frac{1}{4}$. The births are annually to the inhabitants as 1 in $23\frac{3}{5}$. The population consisted, on the 1st of January, 1828, of 167,175 males, and 187,028 females. Of 14,989 births

in 1826, 1875 new-born children were abandoned by their parents; and of this number 1362 belonged to the city, and 513 were sent in from the provinces. The sudden deaths were 330. The *suicides* were only 13, a remarkably small proportion for a population of above 350,000. Eleven persons died in 1826 aged above 100; and fifty-three aged from 90 to 100. (Giornale di Napoli, 1827.)

BRUSSELS.

It appears that at Brussels the month of May is the most favourable for conception; and that the most unfavourable period of the year is the close of October.

Of 1000 infants of both sexes, born on the same day at Brussels, about half die before reaching the age of 26 years. The mortality of Brussels is at present large: the battle of Waterloo has left a remarkable influence, and during several subsequent years has changed the ordinary average: it appears to be about 1 in 25 or 26. The greatest number of deaths occurs in January, the lowest number in July. The lowest number of births and deaths happen precisely at the same time, in July; and the greatest number of births and deaths happen also at the same time, nearly, in February and January.

AMSTERDAM.

The population of Amsterdam has decreased in consequence of declining commerce and political changes; and it is curious to find that its mortality increases with the progress of decay. January is the most fatal month, and November next; June is the least fatal. In 1815, when the condition of Amsterdam became more tranquil, we perceive a sudden increase of births. In 1814, a year of turbulence, they were only 6128; in 1815 they rose to 7050.

In 1777 the annual deaths were 1 in 27; a very small proportion for that period, when Amsterdam was one of the most healthy cities of Europe in this light, as it was also one of the most flourishing. The deaths have now increased to 1 in 24; and it seems to be one of the least healthy as it is also one of the least prosperous—a condition which we trust will not be permanent under its improved government.

The late terrible visitations of Groningen and other parts of North Holland have led to many enquiries respecting the public health, and to plans for its improvement. Among others is a decree, that after the 1st of January, 1829, no burials shall be permitted to take place in towns or churches.

STOCKHOLM.

The population amounted, at the end of 1823, to 73,210, which is less by 2356 than it contained in 1820. In 1824 the births were 2697, and the deaths 2944. The marriages were 689. Drunkenness appears here, as at Berlin, to produce a large share of the mortality. In a recent year this city exhibited a singular instance of an excess of 1439 more deaths than births; a symptom which it is painful to observe in a brave and industrious people. This disproportion existed particularly amongst the garrison, and is ascribed to immoderate use of brandy. Our authority affirms that this vice destroys the happiness and prosperity of Sweden more effectually than any war has ever accomplished.*

COPENHAGEN.

The number of births was, in 1822, 3764; of which 786 were illegitimate, or about 1 to every 5 births. †

UNITED STATES.

Doctors Niles, junior, and Rush ‡, have supplied some very interesting details on the mor-

* Baron Von Fahnenberg in a letter to the Literary Gazette, Jan. 1829.

† Messag. Franc. du Nord, Oct. 1825.

‡ Medical Statistics; or, Comparative View of the Morality in New York, &c. New York, 1827.

tality of the United States, and particularly on the different degrees of mortality between the *white* and *black* inhabitants, a subject to which allusions will be found in other parts of this work.

NEW YORK.

The annual mortality of the *whites* at New York, on an average of the seven years from 1820 to 1826 is 1 in 40. The deaths of the *entire* population were in 1826 1 in 35.

The annual mortality among the *blacks alone* is, on the same average, so great as 1 in 19.

PHILADELPHIA.

Here the annual deaths among the whites are 1 in 34, but among the blacks still 1 in 19. Of the *entire population in* 1826 1 in 31. In Philadelphia during 20 years have died 7 from 110 to 120 years of age, 59 between 100 and 110, 327 from 90 to 100.

BALTIMORE.

Here the state of the black population improves. The annual mortality of the whites is 1 in 39, and of the blacks 1 in 33. In this city the *slaves* appear to enjoy a longer existence than

the *free blacks*, which is probably owing to the intemperance and improvidence of the latter when left to their own control.

BOSTON.

The deaths among the entire population fluctuate between 1 in 32, as in 1821; and 1 in 49, as in 1826.

NEW YORK.

We shall enter a little more fully into the statistics of New York. The average temperature throughout the year is 55° of Fahrenheit. In winter the thermometer rarely sinks lower than 10° or 20° below the freezing point, and in a few hours the cold always moderates. The vicinity of the Atlantic and of the gulf-stream conduces to soften the rigour of winter. The snow seldom continues longer than two or three weeks, in January or February, and early in March the winter closes. The highest temperature in summer is seldom more than 80° or 90°, and is never of long continuance. Sudden changes of temperature frequently occur in summer and winter — one of the causes, probably, of the early decay of female beauty.

Accurate printed records of the deaths in this city were first printed in 1815. The returns are now made weekly to the city inspector, and

published in the papers, and at the end of every year a minute annual report is given. From the report for 1827 we shall make a few selections : —

Total deaths -	5181
Men - -	1536
Women - -	991
Boys - -	1457
Girls - -	1197

The above list marks the superior longevity of the female sex more strongly than any of which we are in possession.

The greatest number of deaths occurred in July, August, September, and October, the least number in May and June.

The number of deaths at one year and under was - - - -	1336
between 1 and 2 years -	546
between 2 and 5 years -	389
between 5 and 10 years -	185
between 10 and 20 years -	192
between 20 and 30 years -	682
between 30 and 40 years -	657
between 40 and 50 years -	501
between 50 and 60 years -	285
between 60 and 70 years -	221
between 70 and 80 years -	124
between 80 and 90 years -	50
between 90 and 100 years -	12
above 100 years - -	1

The still-born were 291. The sudden deaths are marked 9. The unknown causes of death are marked 153. The number of persons drowned was 68. Deaths by accidents 42. The burned or scalded 29. The deaths from drinking cold water are 21. No official record of births is preserved.

CHAP. VI.

MEDICAL STATISTICS OF GENERAL HOSPITALS.

The principal end of hospitals is the relief of the sick poor; but another benefit may be derived from them, an abstract of their multiplied experience, without which, their utility, as a source of information to our profession, is greatly abridged. Such reports not only tend to improve the economical arrangement of hospitals, but also collect and accumulate a store of evidence on the history of disease, which can scarcely be acquired in the most extensive private practice.

Mr. Milne, one of the most eminent writers of the present day on the probabilities of life, remarks, that in reading the writings of the physicians who have treated these subjects it is impossible not to regret that they have been so little attended to by the profession in general, and that bills of mortality have not been more generally kept in such a way as to throw the light, which they alone can do, on the causes of the increase and decrease of different diseases, and of the great differences that are found

between the degrees of mortality in different situations, and among different classes of the people.

Some persons appear to have hastily concluded, that the mortality of an hospital affords little information as to the economy or practice prevailing in it, and have even ventured on the paradox of supposing, that the deaths will become more numerous as the discipline is improved, and as the skill of the officers increases; because, under such circumstances, the most severe cases alone will be selected, and will be speedily discharged to make way for new ones. This argument appears to be founded chiefly on a solitary fact, originally produced by Joseph Frank *, namely, that at the Hôtel Dieu, in the 9th year of the French Republic, the mortality was 1 in 7, and in the next year rose to 1 in 6, although the interior economy was much ameliorated, and in the following year was so high as 1 in 4. But the real solution of this change appears to have been due to the exclusion, at that time, from the Hôtel Dieu of all pregnant and insane cases, such as had been previously received there in abundance, but whose mortality is much

* Reise nach Paris, London, u. e. grossen theil d. übr. Englands u. Schottlands, in beziehung auf Spitäler, &c. Wien. 1804—1806.

less than that of the common objects of a general hospital, and whose presence accordingly tended to diminish the annual amount. In respect to hospitals destined for particular complaints, as syphilitic or cutaneous, or in regard to lying-in or military hospitals, it would be unjust to form comparisons, except with others of a similar kind; but the general hospitals of the principal cities of Europe may be fairly approximated, with an occasional allowance for the larger number of accidents which occur in great commercial cities. The mortality at St. George's Hospital is greater than that at the Edinburgh Infirmary, on this account, perhaps, because in one year (1825) we find that of 1025 in-patients admitted 664 were cases of accidents, or about two thirds of the whole number. On the whole, we shall generally find, that in every city the mortality of the hospitals has gradually declined in proportion to the increase of prosperity and to the diffusion of knowledge; and wherever it maintains a high standard, there the lower orders will correspond in their condition of want and debasement, and the medical profession will be seen to occupy but a low place in public estimation.

Next to the influence of *national* causes, the mortality of hospitals is most affected by position and internal economy. These circumstances appear more powerful than even the various

merits of *practice ;* and, happily for mankind, they are advantages of a definite nature, easily comprehended, and, of late years, generally demanded. The case was formerly very different, when a singular prejudice or indifference existed in respect to ventilation. At the Leeds Hospital no case of compound fracture, nor of trepan, survived.* At the Hôtel Dieu of Paris compound fractures were also almost always fatal, and few survived amputation.† The system which will bear improper air with impunity during health becomes keenly susceptible of its mischief when diseased, and a change of air will often restore where the strictest diet has failed.

Something must also be allowed for the habit of selection or rejection which prevails at particular hospitals, or under particular officers.

Mortality is *seldom* to be assigned to the influence of bad practice, which, probably, does not often *destroy* life. An accomplished friend made particular notes on the comparative mortality under three physicians in the same hospital ; one was *expectant,* one *tonic,* the other *eclectic.* The mortality was the same, but the length of the disorder, the character of the convalescence, and the chances of relapse were very different.

The earliest statement which we possess of

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* Howard. † Zimmerman.

the mortality of our hospitals is in Sir William Petty's work on Political Arithmetic, from which it appears, that in the year 1685 the proportion of the deaths to the cures in St. Bartholomew's and St. Thomas's Hospitals was about 1 to 7. The annual printed report of St. Thomas's Hospital for 1689 is still preserved: the mortality was then about 1 in 10. In 1741, the report of St. Thomas's Hospital gives about 1 in 10. During the ten years from 1773 to 1783 the mortality at St. Thomas's became still smaller, it was 1 in 14. About the year 1783, some improvements were made with respect to cleanliness and ventilation, and during the ten subsequent years the annual deaths were accordingly still fewer than before, less than 1 in 15. During the ten years intervening between 1803 and 1813 the improvement continued, and the proportion fell to only 1 in 16. The average during the 50 years from 1764 to 1813 was remarkably small, only 1 in 15. The average deaths of the physician's cases during ten years were 1 in 9.*

The following are the annual Reports of St. Thomas's and St. Bartholomew's Hospitals for 1827: —

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* Blane, in Medico-Chirurgical Transactions, and Select Dissertations.

ST. THOMAS'S HOSPITAL.

There have been cured and discharged from St. Thomas's Hospital in Southwark, the last year, of wounded, maimed, sick, and diseased persons, 3151 in-patients, and 9343 out-patients, including casualties, many of whom have been relieved with money and necessaries at their departure, to accommodate and support them in their journies to their several habitations		12,494
Buried		259
Remaining under cure,	In-patients	438
	Out-patients	441

ST. BARTHOLOMEW'S HOSPITAL.

Patients admitted, cured, and discharged, during the last year, 4916 in-patients, 4318 out-patients, and 3173 casualty patients, many of whom have been supplied with money, clothes, and other necessaries, to enable them to return to their several habitations		12,407
Buried		350
Remaining under cure,	In-patients	476
	Out-patients	320
	Casualty patients	164

The first annual report of St. George's Hospital is for the year 1734, when patients were first received. It yields a proportion of about 1 death in 8 in-patients. The two reports of 1825 and 1827 afford about 1 in 9. But there is no doubt that when the new building is opened the estimate will be still more favourable. The printed report of 1828 observes: —

"It is well known that the closeness of the wards in the old building has long been a subject of the deepest regret to the physicians and surgeons who have observed its effect in preventing or retarding the cure of their patients; and this evil must, in some degree, be increased by the new building partially obstructing the ventilation of the old. It is hoped, therefore, that the noble spirit which has shown itself in the commencement of this undertaking will not leave its work incomplete, nor relax its exertions till it has attained that inestimable blessing for the suffering poor, an airy, well-arranged hospital, of a size commensurate with the wants, and worthy of the opulence and charity, of the western part of the metropolis." We may remark, that a large part of the in-patients usually admitted are cases of *accidents*, a circumstance which marks the eminent utility of this institution, and explains, perhaps, a principal source of the mortality.

In the provincial hospitals of the kingdom the mortality will be generally found lower than in the metropolitan, which will also be seen to occur in France and in Germany. This circumstance is owing to the smaller population of the town, and to the usually smaller size of the hospital. In Dublin and Edinburgh the mortality of the public institutions appears to be less than in London. If we take the hos-

pital at Bath we find a similar result: the mortality is there inferior to what occurs in Dublin or Edinburgh. At the *Bath United Hospital*, during 1827, 280 in-patients were received under the physician's care, and 14 only died, or 1 in 20. During the same year 271 in-patients were received under the surgeon's care, and 16 died, or about 1 in 17.

It appears clear, that the congregation of a large mass of persons has a greater or less tendency (according to circumstances) to promote the formation of disease, and to propagate and exasperate it when once produced. On this account a large town is usually less favourable to health than a small one, and a large hospital than a small one, and it would be probably found, on observation, that a large *ward* in any hospital is less healthy than a small one. These tendencies may be occasionally retarded by particular exertions to counteract them, but the principle will remain unimpaired. Perhaps it might be useful to preserve these facts in view in the construction of new hospitals: a city would be better served by several small hospitals than by a few large ones, without alluding to the greater convenience of transport, visits, and study.

Dublin appears to have suffered more continuously from epidemic fever than any other great city of Europe which has not sustained

the pressure of war. The causes of this calamitous state are attributed by the resident physicians to want of employment, poverty, and sometimes to famine among the lower classes; and (if we continue to use the strong language of one of the eye-witnesses) to circumstances "unhappily deeply laid in the frame of society, and arising from manners and habits generated by ages of civil and moral degradation, which has checked the natural progress of civilisation, — exhibiting a population increasing, but not improving." We may reasonably trust that this gloomy picture will soon cease to own an original in our own empire.

The mortality of the *Fever Hospital* has gradually and steadily diminished of late years: —

From 1804 to 1812 it was 1 in 12;
From 1812 to 1814 it was 1 in 15;
And in 1815 it was only 1 in 20:

and we may add, that whatever may be, or may have been, the condition of the humbler inhabitants, the mortality of its hospitals and asylums, taken all together, is greatly inferior to that of all the *similar* institutions of Paris taken together. At Paris the rate of these was in 1822 about 1 in 8, but at Dublin, as appears from the following table, about 1 in 13, in a late year: —

Return of the Admissions, Discharges, and Deaths, in the Hospitals of Dublin, from the 1st of August, 1826, to the 1st of August, 1827.

	ADMITTED.			DISCHARGED.			DIED.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
House and Asylum - - -	22	287	513	140	187	327	66	97	163
Lunatics - - - -	38	34	72	6	9	15	35	34	69
Hardwicke Fever Hospital - -	1508	1407	2915	1408	1337	2745	102	81	183
Wellesley Fever ditto - -	869	1362	2231	753	1228	1981	62	92	154
Whitworth Chronic ditto - -	514	625	1139	400	532	932	113	112	225
Richmond Surgical ditto - -	733	347	1080	673	320	993	55	20	75
Mendicant Cells - - -	570	2961	3531	570	2981	3551	2		2
Total - -	4458	7023	11481	3950	6594	10544	435	436	871

An excellent Report (the thirty-third) has lately been published by the medical and surgical officers of the Glasgow Royal Infirmary of the cases and operations which occurred in it during 1827. It contains above 200 patients. In the medical department the number of females slightly exceeded. The average mortality of the male patients was 1 in $8\frac{2}{3}$; of the female only 1 in $10\frac{1}{4}$. The mortality has been greatly swelled by the prevalence of two formidable epidemics, typhus fever and dysentery. The typhus patients alone constitute fully one half of the whole, amounting to 1078. This fever was peculiarly fatal; the deaths of males being about 1 in 7, and of females somewhat above 1 in 10. The dysentery was also uncommonly severe; the deaths of males were above 1 in 8, of females 1 in 10. The decided bias of nearly the whole of the diseases of this year was towards *asthenia;* a tendency which was to be anticipated from the privations of the lower classes, arising from suspended commerce and languishing manufactures.

The number of surgical cases was 795: here there is a large excess of male cases, 511, and only 284 females. The average rate of death among the former was 1 in $14\frac{1}{6}$; and among the latter 1 in $14\frac{1}{5}$. The operations amounted to 80, of which one half may be reckoned capital or important. Lithotomy was performed only five times.

In the whole year only 42 cases of phthisis pulmonalis were received, and 2 of phthisis laryngea. Scrofula and sibbens each afford 6 instances. Of scirrhus and cancer there are 30 cases. Of diseased liver there are 15. Hysteria presents 15 : syphilis 69.*

The mortality of the Edinburgh Royal Infirmary, on an average of the 10 years previous to 1818, was 1 in 16 of all admitted, — a rate similar to that recorded of St. Thomas's Hospital by Blane. My friend Dr. Moncrieff of Edinburgh has favoured me with a minute report of the practice at the *New Town Dispensary* during more than three years. I shall first lay this valuable and laborious document before the reader, and shall then subjoin the results of the Royal Infirmary obtained during the 10 years above alluded to.

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* Glasgow Medical Journal, Number I. Glasgow, 1828.

Quarter ending December 1. 1821.— *Total Number of Patients,* 1171.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Febris continua	34	1	1	12		
Hydrocephalus	7	4	2	2½. 4	2	3. 5. m.
Phrenitis	3	1			1	13
Paralysis	5	1	1	40		
Convulsio	3	1	1	8 months		
Pneumonia	26	3	1	36	2	46. 66
Peripneumonia	2	2			2	64. 75
Carditis	2	2	1	21	1	40
Hæmop. and phthisis	29	6	2	60. 40.	4	14. 45. 60
Hydrothorax	3	1			1	40
Pertussis	21	6	2	7 m. 10	4	16 m. 14 days. 2. 2½. 3
Hepatitis, ac. and chron.	10	1			1	46
Hematemesis	3	1	1	65		
Enteritis	5	2	1	40	1	55
Peritonitis	4	1			1	40
Hydrops	17	4	1	52	3	21. 63. 63.
Morbus coxarius	2	1	1	6		
Variola	6	1	1	18 months		
Gangræna cruris	1	1			1	74
Ulcus	31	1			1	18 months
Ustio	17	1			1	2
Total		42	16		26	

Quarter ending March 1. 1822. — *Total Number of Patients*, 1487.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Febris continua -	25	2	1	49 - - -	1	41
Feb. inf. remitt. -	44	1	1	3 - - -		
Phrenitis - -	1	1	1	42 - - -		
Hydrocephalus -	7	4	1	14 months - -	3	10 m. 2½. 6
Convulsio - -	3	2	1	22 months - -	1	5 months
Catarrhus - -	179	3	1	60 - - -	2	5 wks. 60
Pneumonia - -	62	5	4	6 m. 18 m. 18 m. 40	1	76
Bronchitis - -	7	1	1	22 months - -		
Carditis - -	1	1	1	50 - -		
Hæmop. and phthisis -	37	9	6	11. 19. 37. 47. 48. 60	3	30. 45. 59
Hydrothorax - -	7	2	2	14. 53 - -		
Pertussis - -	46	6	4	14 wks. 13 m. 2. 3 -	2	2½. 2½. twins
Hepatitis, ac. and chron.	12	2		- - - -	2	40. 65
Enteritis - -	3	1		- - - -	1	40
Diarrhœa - -	50	1		- - - -	1	60
Tabes mesenterica -	9	4		- - - -	4	7 m. 17 m. 3. 6
Hydrops - -	10	4		- - - -	4	20. 60. 60. 63
Erysipelas - -	20	2	1	45 - - -	1	3
Variola - -	4	2		- - - -	2	5 m. 13
Ulcus - -	44	2	1	6 months - -	1	15 months
Total - -		55	26		29	

Quarter ending June 1. 1822. — *Total Number of Patients*, 1322.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Febris continua -	34	1	1	60 - - -		
Feb. dentitionis -	10	1	1	20 months - -		
Hydrocephalus -	8	8	4	16 m. 8. 9. 9. - -	4	13 m. 1. 7. 7
Convulsio - -	2	2	2	7 m. 14 m. - -		
Cynanche trachealis -	2	2	1	5 - - -	1	3
Pneumonia - -	30	2		- - - -	2	31. 48
Pericarditis - -	1	1	1	60 - - -		
Hæmop. and phthisis -	28	6	4	34. 58. 60. 70 -	2	2. 50
Hydrothorax - -	5	1		- - - -	1	56
Angina pectoris -	3	1	1	40 - - -		
Pertussis - -	13	2		- - - -	2	8 m. 5
Hepatitis ac. and chron.	10	1	1	44 - -		
Scirrhus pylori - -	2	2		- -	2	50. 62
Enteritis - -	6	2	1	40 - -	1	32
Peritonitis - -	1	1		- - - -	1	65
Diarrhœa - -	46	1		- - - -	1	60
Cholera - - -	1	1		- - - -	1	60
Hydrops - - -	19	1		- - - -	1	45
Hydrops ovarii - -	1	1		- - - -	1	45
Rheumatismus ac. and chr.	59	1		- - - -	1	35 gangræna reg. sacræ
Syphilis - - -	20	1	1	19 - - -		
Erysipelas - -	18	1	1	21 - - -		
Ustio - - -	11	2	1	8 - - -	1	2
Total - -		42	20		22	

Quarter ending September 1. 1822. — *Total Number of Patients,* 1407.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Febris continua -	40	2	1	40 - - -	1	2
Feb. dentitionis -	13	2	1	8 months - -	1	6 months
Hydrocephalus -	5	2	1	4 - - -	1	3
Catarrhus - -	86	1	1	62 - - -		
Pneumonia - -	21	2		- - - -	2	26. 55
Carditis - -	1	1	1	36 - - -		
Hæmop. and phthisis -	37	9	3	22. 28. 60 - -	6	20 m. 7. 25. 31. 54. 60
Hydrothorax - -	2	1	1	51 - -		
Pertussis - -	14	2	1	18 months - -	1	13 months
Hepatitis ac. and chron.	12	1	1	60 - - -		
Icterus - -	4	1		- - - -	1	26
Intus-susceptio - -	1	1		- - - -	1	9 months
Peritonitis - -	5	1		- - - -	1	56
Diarrhœa - -	64	2	1	9 months - -	1	25
Cholera - -	8	1		- - - -	1	35
Hydrops - -	11	1	1	60 - - -		
Scrofula - -	24	1	1	9 months - -		
Syphilis - -	31	1		- - - -	1	40
Variola - -	15	2	1	4 - - -	1	14 months
Phlegmon - -	29	1		- - - - -	1	4
Total - -		35	15		20	

Quarter ending December 1. 1822. — *Total Number of Patients*, 1439.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Febris continua -	43	1	1	24 - - -		
Feb. inf. remitt. - -	14	1	1	3 - - -		
Hydrocephalus - -	3	1		- - -	1	16 months
Apoplexia - -	2	2	1	35 - - -	1	60
Catarrhus - -	143	1		- - -	1	78
Pneumonia - -	25	4	2	24. 40 - -	2	3. 60
Hæmop. and phthisis -	29	4	1	19 - - -	3	22. 35. 50
Pertussis - - -	12	2	2	9 m. 15 m.		
Hepatitis ac. and chron. -	7	1		- - - -	1	50
Peritonitis - -	2	1	1	52 - - -		
Cystitis, ulcus vesicæ -	1	1	1	58 - - -		
Tabes mesenterica - -	6	1	1	21 months - -		
Hydrops - - -	16	2	1	79 - - -	1	12
Scarlatina and sequelæ -	4	2		- - - -	2	3. 4
Variola - - -	17	6	1	1 - - -	5	8 m. 1. 2. 3. 4
Total - -		30	13		17	

Quarter ending March 1. 1823. — *Total Number of Patients*, 1708.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Febris continua	36	2	1	45	1	48
Feb. inf. remitt.	39	1			1	16 months
Hydrocephalus	9	9	4	4m. 10m. 4. 5	5	18 m. 3. 4. 4. 6
Delirium tremens	1	1	1	40		
Apoplexia	2	2	1	76	1	18
Paralysis	6	1	1	59		
Convulsio	3	1	1	2 weeks		
Catarrhus	328	2	1	7 weeks	1	5 months
Pneumonia	26	1			1	60
Bronchitis	2	1			1	9 months
Hæmop. and phthisis	36	6	2	21. 40	4	3. 18. 27. 57
Asthma	21	3	1	67	2	45. 65
Hydrothorax	10	9	5	40. 56. 60. 65. 68	4	34. 38. 40. 55
Pertussis	5	1	1	16 months		
Hepatitis ac. and chron.	12	3	2	26. 40	1	36
Ulcus ventriculi	1	1			1	49
Enteritis	5	1	1	50		
Strictura duodeni	1	1			1	55
Peritonitis	5	1			1	11
Tabes mesenterica	3	2	1	8	1	15 months
Hydrops	14	3	1	17 m.	2	5. 60
Scarlatina and sequelæ	17	1	1	8		
Variola	39	12	4	1 m. 14 m. 2. 4	8	4 m. 9 m. 9 m. 9 m. 11 m. 3. 3. 5.
Ulcus	32	1			1	50
Total		66	29		37	

Quarter ending June 1. 1823. — *Total Number of Patients,* 1838.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Feb. inf. remitt.	31	1			1	2
Hydrocephalus	10	5	2	2. 8	3	5. 12
Convulsio	1	1	1	9 months		
Cynanche tonsillaris	36	1			1	7 months
Catarrhus	334	2	2	61. 76		
Pneumonia	32	7	3	9 m. 2½. 38	4	11 m. 14 m. 50. 80
Pleuritis	26	2			2	4. 80
Bronchitis	3	2	2	35. 60		
Hæmop. and phthisis	34	9	7	30. 40. 40. 40. 60. 63. 72	2	4. 50
Asthma	15	1	1	60		
Hydrothorax	6	1			1	67
Angina pectoris	3	1	1	74		
Aneurisma aortæ	2	1	1	42		
Pertussis	4	1	1	5		
Hepatitis ac. and chron.	7	2	2	47. 65		
Enteritis	5	1	1	71		
Peritonitis	3	1			1	45
Diarrhœa	69	2	2	13 m. 14		
Dysenteria	8	1	1	63		
Tabes mesenterica	4	1	1	17 months		
Hydrops	8	2	1	28	1	51
Rachitis	2	1	1	8 months		
Rubeola and sequelæ	62	2	1	7	1	6
Erysipelas	17	2	1	65 husband	1	60 wife
Variola	14	6	4	18 m. 20 m. 3. 4	2	2. 2
Gangræna ani, &c.	1	1			1	2½
Total		57	36		21	

Quarter ending September 1. 1823. — *Total Number of Patients,* 1999.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Febris continua	34	2	2	5. 23		
Hydrocephalus	8	7	2	3. 9	5	9 weeks. 20 m. 2. $2\frac{1}{2}$. 3
Apoplexia	1	1			1	69
Paralysis	8	1	1	70		
Convulsio	5	2	1	7 months	1	9
Pneumonia	20	2	2	8 m. 17 m.		
Hæmop. and phthisis	50	8	2	21 m. 17	6	14. 22. 28. 30. 32. 35
Angina pectoris	3	2	1	40	1	14
Hepatitis ac. and chron.	7	1			1	50
Ulcus ventriculi	1	1	1	48		
Hæmatemesis	4	1			1	24
Enteritis	9	1			1	15
Intus-susceptia	1	1	1	5 weeks		
Peritonitis	6	1	1	4		
Diarrhœa	56	2			2	8 m. 9 m.
Tabes mesenteric	7	2			2	2. 8
Rubeola and sequelæ	338	20	9	6 m. 15 m. 18 m. $1\frac{1}{2}$. $1\frac{1}{2}$. 2. 2. 3. 4	11	4 m. 8 m. 9 m. 15 m. 16 m. 21 m. 1. 1. 2. $2\frac{1}{2}$. 4
Erysipelas	21	1	1	20		
Variola	14	2	1	15 m.	1	10 m.
Total		58	25		33	

Quarter ending December 1. 1823. — *Total Number of Patients*, 1794.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Hydrocephalus -	6	6	3	11 m. 3. 4 - -	3	18 m. 2½. 18
Delirium tremens -	1	1	1	55 - -		
Apoplexia - -	2	1	1	66 - - -		
Convulsio - -	2	2	2	1 m. 2 m. - -		
Cynanche maligna -	2	2	1	27 - - -	1	6 m.
Cynanche laryngea -	7	1	1	39 - - -		
Catarrhus - -	177	1		- - -	1	9 m.
Pneumonia - -	16	2	2	9 m. 50 - -		
Hæmop. and phthisis -	42	11	4	10. 27. 38. 50 - -	7	1. 21. 25. 38. 45. 45. 45
Asthma - -	16	1	1	48 - -		
Hydrothorax - -	5	1		- - - -	1	69
Angina pectoris -	1	1	1	60 - - -		
Hepatitis ac. and chron.	14	1		- - - -	1	48
Enteritis - -	6	2	1	31 - - -	1	2½
Peritonitis - -	6	2		- - - -	2	34. 42
Diarrhœa - -	82	2	1	2 - - -	1	15 m.
Tabes mesenterica -	8	1		- - - -	1	2½
Hydrops - -	20	2	1	3 - - -	1	56
Rubeola and sequelæ -	35	6	4	9 m. 1. 1½. 2 - -	2	6 m. 1
Scarlatina and sequelæ -	38	4	3	2. 4. 8 - - -	1	3
Variola - -	19	3		- - - -	3	11 m. 11 m. 16 m.
Fracturæ - -	4	1		- - - -	1 costarum.	70
Total - -		54	27		27	

Quarter ending March 1. 1824. — *Total Number of Patients*, 1429.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Febris continua -	22	1		- - - -	1	18
Paralysis - -	9	1	1	73 - - -		
Mania - -	1	1		- - - -	1	45
Cynanche maligna -	1	1		- - -	1	8 m.
Cynanche trachealis -	8	5	3	1. 23 m. 3 - -	2	19 m. 4
Catarrhus - -	197	3	1	63 - - -	2	22 m. 80
Pneumonia - -	16	2	1	4 m. - - -	1	
Pleuritis - -	22	2	1	80 - - -	1	70
Hæmop. and phthisis -	28	12	5	7 m. 18. 19. 28. 65. -	7	10. 23. 26. 28. 30. 40. 51
Hydrothorax - -	5	3	2	41. 78. - - -	1	4
Angina pectoris -	1	1	1	46 - - -		
Pertussis - -	3	1	1	10 m. - - -		
Schirrus pancreatis -	1	1		- - -	1	47
Hæmatemesis -	2	1		- - - -	1	24
Enteritis - -	4	1		- - - -	1	42
Diarrhœa - -	56	3	1	35 - -	2	7 wks. 50
Tabes mesenterica -	3	1	1	22 m. - -		
Hydrops - -	8	1		- - - -	1	50
Morbus spinalis -	3	1	1	22 - -		
Syphilis - -	20	1		- - - -	1	4 m. erup. syphilit.
Rubeola and sequelæ -	1	1		- - -	1	4
Scarlatina and seq. -	26	3	1	12 - - -	2	15 m. 9
Erysipelas - -	17	2	2	19. 50 - -		
Variola - -	2	1		- - - -	1	6
Tumores - -	15	1	1	42 tumor colli -		
Vulnus - -	11	1		- - - -	1	45 vulnus genu
Total - -		52	23		29	

Quarter ending June 1. 1824. — *Total Number of Patients,* 1879.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Febris continua -	40	1		- - - -	1	2½
Hydrocephalus -	7	7	6	11m. 16m. 16m. 20m. 2.12	1	17
Apoplexia - -	2	2	1	55 - - -	1	60
Paralysis - -	1	1		- - -	1	60
Convulsio - -	3	1		- - -	1	20 weeks
Cynanche laryngea -	1	1	1	57 - - -		
Cynanche trachealis -	5	1	1	2 - - -		
Catarrhus - -	228	2	1	9 months - -	1	15 weeks
Pneumonia - -	32	4	2	18 m. 63 - -	2	4 m. 8 m.
Carditis - -	1	1		- - - -	1	10
Hæmop. and phthisis -	48	6	4	40. 43. 48. 50 -	2	30. 53
Asthma - -	17	1	1	35 - - -		
Hydrothorax -	4	2	1	60 - - -	1	63
Angina pectoris -	6	1	1	13 - - -		
Aneurisma aortæ -	1	1	1	37 - - -		
Pertussis - -	1	1	1	9 months - -		
Enteritis - -	2	1		- - - -	1	16
Peritonitis - -	3	2	2	10. 52 - -		
Tabes mesenterica -	4	1		- - - -	1	19 months
Suppuratio renis -	1	1	1	45 - - -		
Hydrops - -	22	3	2	44. 70 - -	1	68
Scarlatina and sequelæ -	61	2	2	14 m. 4 - -		
Variola - -	14	1	1	15 months - -		
Gangræna - -	1	1	1	78 - - -		
Total - -		45	30		15	

Quarter ending September 1. 1824. — *Total Number of Patients,* 1486.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Febris continua -	15	1	1	2 - - -		
Hydrocephalus -	4	4	2	11 m. 5 - - -	2	9 m. 14
Paralysis - -	8	2	2	56. 70 - -		
Mania - -	2	1	1	41 - - -		
Convulsio - -	3	1	1	2 - - -		
Cynanche maligna -	1	1	1	7 months - -		
Cynanche trachealis -	2	2	1	2 - - -	1	7 months
Pneumonia - -	27	1		- - - -	1	6 months
Bronchitis - -	3	2	2	2½. 3 - -		
Hæmop. and phthisis -	31	7	3	2. 35. 48 - -	4	19. 25. 30. 45
Asthma - -	6	1		- - - - -	1	61
Hydrothorax - -	3	1		- - - -	1	39
Hepatitis ac. and chr. -	8	1	1	40 - - -		
Hæmatemesis - -	5	1		- - -	1	23
Diarrhœa - -	92	3	2	10 months - -	1	18 months
Tabes mesenterica -	5	2	1	7 months - -	1	20 months
Enteritis - -	2	1		- - - -	1	70
Retentio urinæ -	1	1	1	75 - - -		
Rheumatismus ac. and chr.	72	1		- - - - -	1	59
Morbus spinalis -	2	1		- - -	1	20
Scarlatina and sequelæ -	17	1	1	10 - -		
Variola - -	21	9	6	6 m. 18 m. 18 m. 2. 3. 4	3	9 m. 18 m. 3
Total - -		45	26		19	

Quarter ending December 1. 1824.— *Total Number of Patients,* 1377.

Diseases.	Number of Cases.	Number of Deaths.	Males.	Ages of Males.	Females.	Ages of Females.
Febris continua	23	3	2	11. 17	1	12
Feb. inf. remittens	23	1	1	7		
Hydrocephalus	4	4	3	10 m. 15 m. 10	1	5
Paralysis	3	3	3	36. 70. 80		
Cynanche trachealis	4	3	1	5	2	11 m. 3
Catarrhus	165	1	1	78		
Pneumonia	29	3	2	16 m. $2\frac{1}{2}$	1	13 m.
Pleuritis	14	2	2	3. 35		
Bronchitis	3	2	1	5	1	2
Hæmop. and phthisis	21	5	2	38. 44	3	30. 32. 40
Asthma	4	1	1	56		
Hydrothorax	6	2	1	60	1	38
Pneumothorax	1	1	1	18		
Pertussis	43	7	2	6 m. 11 m.	5	7 m. 7 m. 2. 2. 4
Scirrhus pylori	2	1	1	55		
Gastritis	2	1			1	48
Enteritis	6	1	1	7 months		
Diarrhœa	66	2	1	35	1	3
Cholera	7	1			1	14 days
Tabes mesenterica	2	1	1	16 months		
Cancer recti	1	1			1	35
Hydrops	13	3			3	23. 70. 76
Scrofula	10	1	1	8		
Syphilis	20	1			1	45
Rubeola and sequelæ	5	1			1	9 months
Scarlatina and seq.	14	1			1	5
Variola	24	8	2	3. 5	6	6 m. 2. 2. 2. $2\frac{1}{2}$. 3
Total		61	30		31	

Abstract of the Quarterly Reports.

	Number of Cases.	Number of Deaths.		
		Males.	Females.	Total.
Quarter ending December 1. 1821.	1171	16	26	42
——— March 1. 1822. -	1487	26	29	55
——— June 1. 1822. -	1322	20	22	42
——— September 1. 1822.	1407	15	20	35
——— December 1. 1822.	1439	13	17	30
——— March 1. 1823. -	1708	29	36	66
——— June 1. 1823. -	1838	36	21	57
——— September 1. 1823.	1999	25	33	58
——— December 1. 1823.	1794	27	27	54
——— March 1. 1824. -	1429	23	29	52
——— June 1. 1824. -	1879	30	15	45
——— September 1. 1824.	1486	26	19	45
——— December 1. 1824.	1377	30	31	61

List of Patients admitted into the Royal Infirmary of Edinburgh for Ten Years previous to the 1st of January, 1818. (*Extracted from the printed Report of the Committee of Contributors to that Institution, appointed to enquire into the State of the Hospital, by the General Court of Contributors, held on the 5th of January*, 1818.)

Years of Admission.	Total admitted, exclusive of those remaining in the Hospital annually.	Cured.	Relieved.	Dismissed with Advice.	Dismissed as improper.	Dismissed as irregular.	Dismissed by their own Desire.	Died.
1808	1787	1279	144	77	65	17	91	121
1809	1646	1184	138	36	75	22	105	109
1810	1854	1375	143	59	55	29	68	108
1811	2146	1712	131	58	52	26	55	121
1812	2018	1572	148	33	57	22	66	88
1813	1774	1352	174	28	84	9	86	96
1814	1884	1280	198	26	73	23	118	108
1815	1628	1065	168	46	82	37	135	111
1816	1798	1189	183	49	79	34	127	123
1817	2250	1506	234	4	51	135	110	142
Total from 1808 to 1817, both inclusive	—	18785	13514	1661	416	673	354	961	1127
Average for the above period	—	$1878\frac{5}{10}$	$1351\frac{4}{10}$	$166\frac{1}{10}$	$41\frac{6}{10}$	$67\frac{3}{10}$	$35\frac{4}{10}$	$96\frac{1}{10}$	$112\frac{7}{10}$

PARIS.

The hospitals of Paris received and treated during the year 1822, 47,393 individuals.

The *hospices* afforded refuge to 13,216.

The *administration* supported 19,557 deserted children.

The average period of residence in the hospitals was about 35 days.

The mortality in the hospitals (classing all together) was 1 in 8·42.

The mortality in the *hospices* was 1 in 6·71.

The *daily* expense of each patient in the hospitals was 1 franc, 76 centimes, and 72 dixièmes (about eighteen-pence English).

The daily expense of each inmate of the *hospices* was 84 centimes, and 58 dixièmes (about eight-pence English).

The number of individuals maintained in the hospitals and *hospices* has greatly increased since 1786, when Tenon published his *Report.* In 1822 the number of sick treated in the hospitals exceeded, by 2074, that of 1786; the number of the aged of both sexes received in the *hospices* exceeded, by 1828, that of 1786; the number of deserted children supported by the administration exceeded, by 2873, that of 1786; a circumstance not arising from a real increase in the proportion of illegitimate births, but from a diminution of the mortality, which previously de-

voured these unfortunate beings. Vaccination, greater attention to their comforts, and a better choice of nurses, have combined to reduce the mortality of the children supported in the country to about the half of its former amount.

During the years 1817, 1818, 1819, 1820, and 1821, the annual average of deaths in private dwellings was 13,320, and in hospitals and *hospices* 8595; so that the proportion of deaths in such establishments, to deaths *at home*, is at Paris in the relation of 64 to 100.*

Some facts adduced by Villermé† tend to prove that the mortality of the various patients in the hospitals of Paris is considerably influenced by the goodness or meanness of their condition, by the quantity of their wages, and the nature of their work. The mortality of the lowest class, composed chiefly of persons working or wandering in the streets, is about 1 in 4. Of the class of servants and artisans who are employed more in the interior of dwellings, the mortality is about 1 in 10. The mortality of the soldiers of the *Guard of Paris* is only 1 in 21 in their hospital.

If we examine the progress of several years at the *Hôtel Dieu*, a slow but gradual improvement will appear. Between the years 1770 and

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* Villermé.

† Mém. de l'Acad. R. de Médecine, t. i. Paris, 1828.

1780 the mortality was about 1 in 4 of all admitted; at this period it would be difficult to imagine, as some have done, that high mortality is a proof of well-regulated hospitals, since *Hunczowski* declares that he often saw on the same bed a dead body lying by the side of two dying patients and of one convalescent.

The mortality of the Hôtel Dieu, in the year 1822, was 1 in $6\frac{82}{100}$ on the *whole* number admitted, namely, about 1 in $6\frac{3}{4}$ of the physicians' cases, and 1 in 12 for the surgeons'. We observe that the mortality of the two sexes differs; that of the females is greater than of the men, being 1 in 5 of the first, and only 1 in 7 of the last. The duration of each patient's stay was about the same for both sexes, namely, about 25 days; and the length of stay about the same for both medical and surgical cases. The ages which afforded the most disease were from 15 to 40 for the men, and from 15 to 32 for the women. The surgical cases are here the least fatal, being chiefly composed of slight injuries; while the medical cases abound in acute disorders, moribund and aged objects, previously exhausted by want, or by improper treatment.

In the *Charité*, another general hospital, the mortality is 1 in $5\frac{53}{100}$ in the same year. At the hospital St. Louis, on the other hand, which is not a general hospital, but chiefly confined to cutaneous and scrofulous complaints, rheumatism, and ulcers, the annual mortality is

greatly inferior, being only 1 in about 14, while the duration of the cases is much longer, being 60 days.

PROVINCIAL HOSPITALS OF FRANCE.

In the provincial hospitals of France the mortality is much less than in those of the capital: at Lyons the mortality of the Hôtel Dieu is about 1 in 11; at Montpelier the average of all the medical institutions is about 1 in 10. We have previously remarked, that as the mortality of great cities is usually superior to that of towns, so the annual deaths of metropolitan hospitals will usually exceed the proportion of provincial ones; and, generally, that in any large hospital the proportion of deaths will exceed that of a small one.

BERLIN.

The mortality of the great general hospital, the *Charité*, on an average of 20 years, from 1796 to 1817, was about 1 in 6; and this fact forms a remarkable contrast with *St. Thomas*'s Hospital in London, at the same period, where the deaths were only 1 in 16. And yet in addition to the usual cases of a general hospital, the Charité was receiving all this time an abundant supply of lying-in women, and of the insane, whose presence would tend to lower the total sum of death. The medical cases were to

the surgical in the proportion of about 6 to 1 of all admitted. It can contain 1000 patients; and many are received who pay a small sum for separate rooms and superior accommodation; a plan which is also encouraged at the great hospital of Vienna, and appears to deserve imitation in our own cities, particularly where the funds of an hospital are not of a permanent nature.

The most fatal disease experienced by the inhabitants during the present century has been the epidemic typhus, which destroyed 1575 individuals in the year 1813, and 1323 in the year 1814. This scourge was introduced by the return of the French army from Russia; but among all the calamities which Buonaparte poured upon Prussia, it has been perhaps the most easily repaired.

In the *garrison* hospitals of Prussia were received, during the year 1822, 96,895 patients: 3811 of these remained from the preceding year. The number of those discharged cured, during the year, was 91,413; the lost or missing 25; discharged incurable 452; died 1123; remained at end of the year above 3800. The mortality was thus about 1 in 85. Amongst the deaths, 33 were drowned by accident, and 48 were suicides. Amongst all these patients only one death from small-pox occurred, and seven from scarlet fever. There was only one death of a maniac, and only one from disease of the heart. The deaths from consumption of the

lungs were 270. Deaths from apoplexy 85, of whom about a fourth did not apply for assistance. Deaths from strangulated hernia 2, and from universal syphilis 2.

VIENNA.

The great hospital of Vienna includes a variety of establishments, but the annual mortality of the whole is about 1 in 6. The mortality of the sick wards is about 1 in 7. The total number of beds is about 2000, contained in 111 rooms.

About a ninth part of the whole population of Vienna were contained in its hospitals and asylums during 1824, which is a much smaller proportion than exists at Paris.

PESTH.

At Pesth, the present capital of Hungary, the annual deaths at the civil hospital were, in 1826, 1 in 6; the same proportion that exists at the metropolis of Austria, on whose government it depends, and under whose mistaken policy it equally languishes.

From the 1st of November, 1825, to the last day of June, 1826, were received

With internal disorders	-	718, of whom 151 died.
With external disorders	-	373, of whom 20 died.
Pregnant women	-	39
New-born infants	-	39, of whom 1 died.*

* A. Jankovich. Mem. Clin. in Nosocomio Civ. Pesthiensi. 1826.

DRESDEN.

At Dresden the annual mortality of the city hospital was, in 1816, 1 in 7; and this amount must be chiefly imputed to the crowded and badly ventilated state of the hospital; for the prosperous and enlightened character of the place would otherwise yield, probably, a better result.

MUNICH.

The hospital at Munich is one of the most modern and of the best regulated. The report of 1819 affords only 1 death in 9, of above 3500 patients admitted, — the lowest mortality of any hospital of the same dimensions in Germany, but the city of Munich is also one of the most happily circumstanced. The deaths of both sexes were exactly equal, and the greatest number took place in March and April. The following is a table of the diseases treated in this year:—

Cholera	2	Gangræna	16	Scirrhus ventriculi	5
Erysipelas	160	Angina	27	Scabies	393
Febris biliosa	51	Arthritis	86	Hæmoptoe	17
—— catarrhalis	77	Enteritis	7	Phthisis	101
—— ephemera	7	Hemiplegia and Paralysis	26	Hydrops	84
—— exanthematica	35			Peripneumonia and Pleuritis	76
—— humoralis	59	Rachitis	1		
—— inflammatoria	15	Syphilis	147	Rheumatismus	163
—— intermittens	47	Struma	3	Apoplexy	12
—— nervosa	112	Vitium cordis	7	Amaurosis	1
—— pituitosa	10	Scirrhus pylori	1		

The mortality of the hospitals of the small towns of Germany appears to be often half, or even one third of that of the great cities; but I shall not enter into details respecting them, because I have no sufficient data from our own provincial hospitals of the same size with which a comparison might be formed. I may mention that this is particularly the case at Bonn, at Göttingen, and at Heidelberg: at the last town, which is thriving, placed in a most fertile situation, and of comparatively simple habits, the deaths at the hospital were, in 1825, only 1 in 21; but it must be observed that only 285 were admitted in the whole year. The average stay of each patient was about thirty-two days, which is seven more than the average stay at the Hôtel Dieu of Paris. The mortality of the out-patients was about half of the rate of the in-patients.

RUSSIA.

With respect to the general hospitals in Russia, it was found * in 1811 that the average mortality of those which contained above 30 patients was 1 in 9, but of those which contained less than 30, only 1 in 10. In 1812, a period of

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* C. T. Herrmann. Mém. de l'Acad. des Sciences de Petersbourg, tom. ix. Petersb. 1824.

war, 7000 more patients were admitted than in the preceding year. The annual average of deaths at the Imperial Hospital for the sick poor at Petersburgh has been for fourteen years ending in 1817 so high as 1 in $4\frac{1}{2}$, the greatest proportion of any general hospital of the same extent, and at the same period. The sick are most numerous in April and May, and in September and October.

In the year 1816, the in-patients amounted at the above hospital to 2043, of whom 1378 were cured, and 461 died. The out-patients were 26,968, of whom 4072 died. The operations for the *stone* do not appear to have been so frequent as might have been expected in a country where that disease is very common. Thirty-two operations occurred from 1803 to 1817: nineteen patients recovered, twelve died, and one remained under treatment at the time of the report.*

In the *poor-houses*, or *asylums*, of Russia, there were 5044 admissions in the year 1811, and 519 deaths. They are 45 in number, and hold 1169 individuals. In 17 *orphan-houses* (which are not to be confounded with the *foundling hospitals*) 1472 were received in 1811, and 977 in 1812. The average mortality was 1 in $3\frac{1}{3}$ during the first year, and 1 in $\frac{1}{7}$ during the second year.

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* Mém. sur l'Etat actuel de l'Hôpital Imperial. Petersb. 1817.

PAYS DE VAUD.

The Cantonal Hospital of the *Pays de Vaud* received, in 1825, 344 patients: of whom 193 were cured, 40 were relieved, 15 were incurable, 16 died, and 50 remained. (*Feuille du Canton de Vaud.* 1826.)

GENEVA.

The mortality of the hospital at Geneva, during the year 1823, was about 1 in 11. The deaths of the sexes were exactly equal; and the mean age of the patients who died was nearly the same for both sexes, being fifty-three years for the men, and fifty-six for the women. The average stay of each patient was 26 days, being nearly the same as at the Hôtel Dieu of Paris. The average stay of the patients who died was 22 days. About a third of all the patients were soldiers, whose presence contributed (as appears invariably to be the case) to dilute or lower the amount of fatal cases.

BRUSSELS.

The mortality of the hospital of St. Pierre at Brussels was in the year 1823 1 in 9 for the adult patients: exactly the same proportion prevailed for the two sexes, although a large part of the female ones were cases of labour: the

deaths among the children, many of whom were foundlings, were 1 in 6.

AMSTERDAM.

The average mortality of the chief hospital, St. Pieter's Gasthuis, during the twenty years from 1798 to 1817, was about 1 in 8. The mortality of the male patients was about 1 in 7, of the females 1 in 9. The average loss of all the foundlings received in the noble establishment appropriated to them has been, during the twenty years from 1800 to 1819, about 1 in $8\frac{1}{4}$; a very low proportion when compared with many other similar institutions, but owing to the excellent arrangement and care observed throughout.*

In the chief hospital, during the year 1823, only two operations for the *stone* occurred, and six for *cataract*.

PIEDMONT.

The proportion of deaths to recoveries at the general hospital of Genoa was, in 1821, in 6. The proportion of the hospital St. Giovanni at Turin was, in the same year, 1 to 7. The medical practitioners in the kingdom of Sardinia

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* Nieuwenhuijs. Geneeskundige Plaatsbeschrijving. Amst. 1816—1820.

are chiefly divided between the doctrines of Brown and Broussais: the new contra-stimulant theory has few partisans.

MILAN.

At Milan the mortality of the Great Hospital was, during the three disastrous years ending in 1814, about 1 in 6. In 1823 it had improved to 1 in 7. The number treated during 1823 was 13,278, of whom the males formed 8582, and the females only 4696. The deaths were 1901, of which 1073 were male cases, and 828 female. The proportion, according to age, was *

From the age of 1 to 10 — 77
——————— 51 to 60 — 370 the highest proportion.
——————— 81 to 91 — 21 the lowest.
——————— 41 to 51 — 350

The mortality of the *clinic* during 1812, 1813, and 1814, was 1 in 8, at which period *Rasori* was the professor. The patients treated were 4852, and the deaths were 558. Rasori himself communicated this statement to me.

Melchiorre Gioja, in his *Filosofia della Statistica* †, one of the most elaborate productions of the present century, has given some curious tables explanatory of the intimate connection and re-

* *From the document preserved in the office of the hospital.*
† 2 tom. 4to. Milano. 1826. Tom. ii. pp. 359—416.

action subsisting between the price of wheat, the quantity of disease, the number of children abandoned by their parents, and the mortality not only in hospitals but in private dwellings. We may premise that the price of wheat was very high in the years 1815, 1816, and 1817.

TABLE I.

The number of children exposed at the *Luogo Pio* of *St. Catherine* at Milan, and the number of sick in the Great Hospital of that city, in years of want, and at other periods.

Years.	Exposed.	Mean Number of exposed.	Number of Sick.	Mean Number of Sick.	Price of the Moggio of Wheat.	Mean Price of the Moggio of Wheat.
1815	2280	from 1818	17,974	from 1818	59 lire	from 1818
1816	2625	to 1825	20,993	to 1825	75	to 1825
1817	3082	inclusively (1750)	23,350	inclusively (14,010)	63	inclusively (25 lire)

TABLE II.

The mortality in the private dwellings and hospitals of Milan in years of scarcity, compared with the average mortality of other years.

Years.	Deaths in Private Dwellings.	Mean Number of Deaths in Private Dwellings.	Deaths in Hospitals.	Mean Deaths in Hospitals.	Total Mortality.	Mean Total Mortality.
1815	3824	from 1818	2680	from 1818	6504	from 1818
1816	3966	to 1825	3085	to 1825	7051	to 1825
1817	3806	(3305)	4620	(2028)	8426	(5333)

PAVIA.

At Pavia the most minute records are preserved of all which passes in the medical institutions. The tables which register their transactions abound in the most interesting details, and we gladly render justice on this point to the *Austrian* government, which, beyond all others, exacts from its medical officers the most comprehensive and instructive reports. We must refer for a specimen of this minuteness to the Clinical Annals, lately published by Professor Hildenbrand. The total mortality of the hospital of *San Matteo della Pieta*, in 1823, was $10\frac{1643}{5287}$ per cent. It receives lying-in women as well as general cases. The mortality of the medical clinic was $6\frac{218}{247}$ per cent.; of the surgical clinic, $6\frac{17}{23}$ per cent.; and of the obstetric clinic, $6\frac{4}{41}$ per cent. The total number treated in the year was 3201 men and 2086 women. 42 patients were brought in moribund. The surgical operations were 120. The mortality of the foundlings *in* their hospital was about 12 per cent., but of those *put out* to nurse about 8 per cent. An accurate register is preserved of the *veterinary* clinic: the mortality is about 6 per cent.

PADUA.

The cases of the medical clinic, at which Brera is professor, were in the scholastic season of 1820–21 149. The deaths were 10. Of the male cases 62 were acute, 21 were chronic, and 6 of the whole were incurable. Of the female cases 47 were acute, 19 were chronic, and of the whole 8 were incurable. The average duration of every disease was about 25 days, including the convalescence. The duration of the male and female cases was nearly the same. We perceive that the mortality was about the same as at the medical clinic of Pavia, about six per cent. The average cost of medicines for each patient was about four shillings, and the average cost of the food of each patient was about the same sum.

BOLOGNA.

Professor Tommasini has published the following report of the diseases and mortality in the clinical wards under his care, during the three scholastic seasons, 1816–17, 1817–18, and 1818–19. This detail is the more interesting, because he is one of the most zealous and enlightened partisans of the contra-stimulant doctrine, and is surpassed by no one in earnest attention to the patients committed to his care.

	Entered.	Died.	Mortality per cent.
Acute inflammations, including 15 rheumatisms and 8 *exanthems* - -	209	21	$10\frac{1}{21}$
Chronic phlogoses, including 13 dropsies, which depended on a *lento-phlogistic* condition - -	38	5	$13\frac{1}{6}$
Synocha and catarrhal fever -	35	0	0
Synochus, nervous fever, or typhus -	57	4	$7\frac{1}{57}$
Affections from a deficiency of stimulus	4	0	0
Simple intermittent fever, and complicated with physconia - -	45	0	0
Hæmorrhages - - -	17	1	$5\frac{15}{17}$
Convulsions - - -	18	1	$5\frac{5}{9}$
Asthmatic affections - -	4	0	0
Torpors, hemiplegia, and apoplexy -	10	1	10
Irritative affections - -	10	0	0
Hydrophobia - - -	2	2	100
Pellagra - - - -	1	0	0
Scrofulous disorders - -	3	0	0
Total - -	453	35	$7\frac{3}{4}$

LEGHORN.

During the seven years from 1818 to 1825 the average annual mortality of the male patients at the hospitals of Leghorn has been 1 in $7\frac{1}{6}$, and of the female patients 1 in $7\frac{1}{2}$.* On the other hand, as has been observed in other places, the deaths among the sick soldiery were only 110 to 7878 patients.

* Gordini ed Orsini. Ricerche, &c. Liv. 1826.

PALERMO.

The number of sick received at the Great Hospital of Palermo in 1823 amounted to 4221. The deaths were 515; a proportion of 12 per cent.

SPAIN.

The materials for comparison which this country has supplied are very scanty.

The two principal hospitals at *Madrid* are the *General Hospital* for men alone, and the *Hospital of the Passion* for women. According to a French traveller * 11,959 men and 3271 women were treated in these two hospitals in the year 1814, of whom 722 of the former, and 465 of the latter, died. In 1818, of 10,807 male patients, 9150 were cured, and 860 died; and of 3693 women, 2956 were cured, and 423 died. But the report which we quote does not express that these were all in-patients, and affords little information, from its want of minuteness.

In the hospital of *Valencia* in 1786 were received 4800 civil patients, of whom 639 died; and 890 soldiers, of whom only 27 died.

The general hospital of *Santa Cruz*, at *Bar-*

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* D'Hautefort, Coup-d'œil sur Lisbonne et Madrid. Paris, 1820.

celona, receives the sick, the insane, and foundlings. The following is a report of its proceedings, furnished by the *Europeo*, an intelligent periodical journal of Barcelona, which has now ceased to exist: —

GENERAL DISEASES.

Years.	Existing.	Entries.	Cured.	Died.	Remaining.
1820	469	3800	3366	5	495
1821	495	3866	3664	754	243
1822	243				388
1823	388	3456	3231	539	304

Compared with the returns of some great hospitals, this is considerably in favour of Barcelona. The following is the report of the *insane* at the same hospital: —

Years.	Existing.	Entries.	Cured.	Died.	Remaining.
1820	142	131	74	39	160
1821	160	113	76	34	142
1822	142				
1823		73	54	43	

The blank spaces exist in the original.

CHAP. VII.

STATISTICS OF LYING-IN HOSPITALS, AND OF THE STILL-BORN.

The most prominent fact afforded by medical statistics, next to the diminished mortality of infancy, is the peculiar change which has supervened within the last 100 years in the fate of lying-in women. In 1750, at the British Lying-in Hospital of London, 1 woman died out of 42; in 1780, only 1 died in 60; and, finally, the improvement became so great, that only 1 case was fatal out of 288, in the 10 years between 1789 and 1798. The proportion of still-born children was at that time about 1 to 25; and of women having twins was about 1 to 84. The deaths of the children during all this period preserved a constant proportion to the fate of the mothers. In 1750, one child died out of 15; in 1780, 1 in 44; and in the last decade, from 1789 to 1798, only 1 in 77.

Let us compare with this statement the situation of the lying-in women, about the same time, in France. Tenon, a distinguished French writer on hospitals, assures us, that the mortality of the lying-in women at the Hôtel Dieu of

Paris (where they were then admitted) was about 1 in 15, while that of the British hospital was only 1 in 60; and the still-born were 1 in 13 at the former, while 1 in 25 at the latter. But it is pleasing to observe that this state of things no longer exists at Paris: the mortality of the Lying-in Hospital there was in 1822 1 in 30; which is at least the double of what at present occurs in our lying-in institutions. At the City of London Lying-in Hospital, in 1826, the deaths were 1 to 70; but, compared with the average of the Dublin Lying-in Hospital during 70 years, the present deaths at the Paris hospital are about treble in amount. The average stay of each female admitted into the Paris hospital was about 22 days.

The loss at the Dublin hospital was only 12 women among 2675 delivered, in the year 1822. The following is the official report of the results observed there during nearly 70 years, from its origin in 1757 to 1825:—

Proportion of males and females born, about 12 males to 11 females.
———— children dying in the hospital, about 1 to 19.
———— children still born, about 1 to 17.
———— women having twins (and more), about 1 to 60.
———— women dying in child-bed, about 1 to 89.
———— women having three and four children, about 1 to 4000.

The deaths at the Lying-in Hospital at Stockholm were, in 1822, about the same as at Paris,

being 1 in 29. In 472 deliveries were 11 cases of twins, 1 triplet, and the still-born were 36. Of the 21 deaths of mothers 16 were from puerperal fever; and 12 of the new-born infants had ophthalmia purulenta, which is a very common affection, also, of the foundlings at Paris. A beneficial change has occurred at Berlin, corresponding to what has been seen at London and Paris. From 1796 to 1806 one lying-in woman died out of 32 received into the Charité Hospital at Berlin; but in the ensuing 10 years, from 1807 to 1817, only 1 fatal case occurred amongst 45. The average fate of pregnancy throughout the whole kingdom of Prussia in the year 1817 has been published under the sanction of that government: it is the only document of so comprehensive a nature, and embracing all ranks of society, which has yet been published. According to it 1 mother dies in that country out of 112; and as it relates to the rich equally as to the poor, and to rural districts as well as to cities, it places in a strong light the very low mortality of the Dublin Hospital, which in 1814 lost only 1 in 100 of women, always poor, and often miserable.

The following report of the obstetric practice in a healthy provincial town (*Lewes*) has been published by Mr. Mantell :* —

* London Medical Gazette, vol. ii. p. 782. 1828.

During the last 15 years occurred 2410 cases.
Arm presentations four, or 1 in 600.
Cases in which turning was necessary eight, or 1 in 300.
Cases of embryotomy, three: in one the fœtus dead; in two, destroyed: 1 in 800.
Puerperal convulsions six: three delivered by natural efforts; one, the child turned; one by forceps; one convulsions *after* delivery: 1 in 400.
Fatal cases only two: one uterine hæmorrhage, fifth month after pregnancy, occasioned by too early exertion, died 48 hours after delivery; and one fatal syncope, without any apparent cause, died twelve hours after delivery: 1 in 1200.

This document forms a remarkable contrast with the registers of the lying-in hospitals of great cities. It proceeds from a gentleman whose name is familiar to the friends of science.

The mortality at the Edinburgh Lying-in Hospital is about 1 in 100. The following table shows also the number of still-born, and other particulars, obtained at that institution, during a period of nearly three years: —

EDINBURGH GENERAL LYING-IN HOSPITAL.

WOMEN.				CHILDREN.				
Year.	Number of Patients.	Died.	Disease.	Male.	Female.	Died.	Still-born.	Abortion.
1826	196	1	Peritonitis.	97	104	4	12	2
1827	218	2	Phthisis.	116	103	3	11	
1828	149	1	Exhaustion.					
to 29th Sept.		1	Peritonitis.	76	74	5	8	3

STATISTICS OF THE STILL-BORN.

It appears that 1 infant out of 32 is still-born in Prussia. The proportion of the still-born is also in Hanover about 1 in 30.

The varieties in the number of the still-born at different places are very difficult of explanation, or baffle it entirely. At Edinburgh, in the middle of last century, the proportion is said to have been 1 in 25, at the very time when at Strasburg it was 1 in 8. At Strasburg the number is now lessened, but continues larger than elsewhere. On an average of 20 years it has beeen 1 in 11 there, at present it is one in $12\frac{1}{2}$ of all births. In Sweden and in Finland, on the contrary, it is only 1 in 40. Generally speaking, the still-born are more frequent in towns than in the country, and more common amongst the poorer classes than the affluent. At Stuttgard it has been remarked, that the

number of the still-born augments nearly in the same proportion as that of the illegitimate births, and it may be added that of the legitimate children in Prussia, only 2 out of 10 die in the first year, but of the illegitimate ones, 3 in 11.

The proportion of the still-born has continued nearly the same for the last 50 years at Berlin: it is at present 1 in 19½. According to Caspar, the rate in some other cities is,

London and Vienna, 1 in 24;
Paris and Dresden, 1 in 19;
Hamburg, 1 in 15.

It is scarcely necessary to prove that abortions and still-births are far more frequent amongst the unmarried than among married women. If we observe what happens among the most unfortunate of the former, as in the Hospital *des Vénériens* at Paris, the excessive proportion of two children out of seven are born dead; and in a similar establishment at Hamburg the proportion is 1 in 3. If we take a whole town, as Göttingen, only 3 per cent. of the children born in marriage are still-born, but so many as 15 per cent. of those born out of wedlock.*

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* Casper. Beiträge, &c.

CHAP. VIII.

STATISTICS OF FOUNDLING HOSPITALS, AND OF THE DISEASES OF CHILDREN. — REMARKABLE DIMINUTION WHICH HAS GRADUALLY OCCURRED IN THE MORTALITY OF INFANCY.

Beneath the thin layer of brilliant colours which some writers delight in spreading over the ancient nations, we perceive lurking a deep and dark corruption, which is not least visible in their base contempt of infant life, and astonishing indifference towards their own offspring. No where are the superior virtue and judgment of modern times more strongly disclosed than by a comparison on this point of duty. Every succeeding century, and every advance on the road of Christianity, are marked by increased attention to the physical treatment of children, and by a diminution in their mortality.

Aristotle was of opinion, that where the *exposure* of children was not allowed the number of those actually produced ought to be limited. If the children exceed the number prescribed by the law, he recommends to induce miscarriage before the fœtus is formed.* But (so short-

* Aristot. Περι Πολιτειας, vii. 16.

sighted is every vicious counsel) this unnatural permission would have had an effect directly opposite to the intention, and would have rather increased than diminished the population of a country; marriage would be prematurely encouraged by the prospect of easy means of relief, and parental tenderness would frequently interpose to rescue the offspring.*

Among the ancient Persians it was a common custom to bury children alive. In most of the Grecian states infanticide was not merely permitted, but actually enforced by law. Of all the nations of antiquity the Romans were most unrelenting in their treatment of infants. The law of the Twelve Tables sanctioned this barbarous practice, and such was the custom of Rome from her first origin to the time of Constantine. Christianity first opposed a barrier to the crime. The Phœnicians and Carthaginians were no strangers to it. At a later period traces are visible in the history of the Vesigoths. The Chinese are notorious for cruelty in the exposure and murder of their children. This habit was among the Hindoos until lately still more prevalent. The number of infants murdered in the provinces of Cutch and Guzerat alone amounted, according to the lowest computation, to 3000

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* Malthus on Population.

annually.* Within a few years, through the benevolent exertions of England, infanticide has been completely abolished in many provinces of India. †

Mr. Duncan, the Marquis Wellesley, and Colonel Walker, have been mainly instrumental in accomplishing this reform; and this event, in conjunction with the recent resolution of the East India Company to oppose by forcible measures the immolation of widows, would leave the most noble monument of the British sway in the East, even if it had achieved there no other trophies of enlightened benevolence.

If any one be desirous of tracing the worldly or civil influence of Christianity, he may meet with abundant satisfaction in considering the sudden growth of asylums for the *sick* and the *destitute*, which accompanied its progress, and which may be sought in vain in the history of antiquity. The boasted and over-rated triumphs of Greece and Rome record no provision for the friendless: to pamper the vices and to flatter the ambition of a few selfish and proud individuals, who carelessly frowned from a barren eminence on the servile and detesting crowd

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* Buchanan, Researches in Asia.

† Beck, Elements of Medical Jurisprudence. Philadelphia. See also Foderé, Essai Historique et Moral sur la Pauvreté des Nations, la Population, la Mendicité, les Hôpitaux, et les Enfans Trouvés. 8vo. Paris. 1825.

below, was the principal object of their buildings and of their institutions.

Foundling hospitals gradually flowed from the admirable spirit of charity thus introduced; and whatever we may think of their *policy*, the feeling which created them can only excite respect. We cannot help agreeing, however, with Malthus, Beck, and others, that their utility, under any system of *indiscriminate* admission, is highly questionable. It will presently be seen that they have done very little towards the *preservation of infant life;* and it is certain that the facilities which they afford corrupt the maternal instinct, and offer a premium to seduction. Altogether we have reason to congratulate ourselves that England contains so few, and that the only one in Great Britain (of whose existence we are aware) subsists under limits which counteract abuse.

The Foundling Hospital of London deserves priority of mention, not merely on account of its excellent economy and the good health of its inmates, but from its standing alone in the principle of rejecting *secret* or *indiscriminate* entries. It acted originally on the same system as other foundling hospitals, but has happily changed it to introduce examination of the mother's previous character, and a special application on her part. So far is this difficulty from encouraging *infanticide*, that the crime is rare in London; and

far from being unfavourable to the preservation of infants, in scarcely any situation is their death so probable as in the hospitals where they are admitted clandestinely.

The number of children at present residing in the Foundling Hospital of London is 310, and 130 more are in the country. They are received at any age under twelve months, and are immediately sent to wet-nurses in the neighbouring counties. Every child has a separate nurse. She receives 3*s.* 6*d.* a week, and a small allowance more is made for clothing, and for the attendance of an apothecary on the spot. The nurses receive additional premiums on rearing the child to a certain age. The children remain five years in the country; on their return are instructed, and supported in the hospital until the age of 14 or 15, when they are placed in service or apprenticed. Their appearance is singularly neat, fresh, orderly, and cheerful. During the 20 years, ending in December, 1827, the mortality from the period of admission to 14 years of age has been only 25 per cent.*

The mortality which at a former period prevailed in the Foundling Hospital of Dublin resulted from neglect and injudicious management: it was so formidable as to become the subject of parliamentary enquiry; when it appeared that of 10,272 sick children sent to the *Infirmary* at-

* Mr. Lievesley, the Secretary, favoured me with this fact.

tached to the hospital, during the 21 years ending in 1796, 45 only were recovered; a statement which, at this moment, seems incredible. Of the above number, no less than 10,201 were stated to be affected with syphilitic symptoms; but so great has been the change of late years in this respect, that scarcely one child in 30 is now contaminated with them. Under the new system a happy change has taken place: various improvements have combined to diminish the mortality; among others, the use of house wet-nurses, instead of spoon-feeding, has been very beneficial; and the number of lives preserved has been so considerable, that the wages paid to country nurses have annually increased since 1803, when about 8000*l.* were paid to them, up to 1811, when the sum amounted to about 16,000*l.* From June, 1805, to June, 1806, 2168 infants were taken into the house, and only 486 died there, — a very small proportion for that period.

From 1800 to 1811, 11,111 infants were brought in by distressed parents, and 14,974 were abandoned. But it must be remembered, to the credit of Dublin, that its Foundling Hospital is not at all confined to the city, but receives inmates equally from every part of Ireland, and even several from England; since this is the only hospital in the United Kingdom which receives any infant left at the door with-

out enquiry. The exertions made to instruct the children, as they advance, in useful arts, and the general attention paid to their education, appear to distinguish this establishment very honourably.

In Edinburgh an attempt has been occasionally made to form a Foundling Hospital, but has failed from the opinion of its injury to morality.

The number of children abandoned by their parents at *Paris* in 1827 amounted to 8084.*

In every hospital where foundlings are indiscriminately received the mortality appears to be beyond the control of all attention or skill. In Paris, at present, of 1000 foundlings admitted, 251 are ascertained to die during the first few days, and 235 more on their road to the country nurses, or before the end of the first year; so that at that period only half remain alive. It seems that the frail tenure by which an infant holds its life will not allow of a remitted attention, even for a few hours; and that the desertion of a child by its mother, at the very time when of all others it stands most in need of her care, is in the event nearly equivalent to its destruction. †

A great difference exists between the mortality of the children reared in the populous

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* Annuaire pour l'An 1829. Paris.

† Malthus.

quarters of Paris, where the streets are narrow and the inhabitants poor, and of those who are bred in the provinces. In Normandy it has been stated that only one child dies out of eight during the first year; while in the worst parts of Paris, about 9 out of 10 have been said to die during the same period, an assertion which, however, appears exaggerated. The best authorities concur in allowing that the mortality of infants has diminshed there within the last fifty years, and the administration of the hospitals declares, in 1823, that the number of infants maintained at the Foundling Hospital is greater at present from this very cause, since the abandonments are really less numerous than formerly. *

The streets at Paris *du Roule* and of the *Faubourg St. Honoré* are known to be inhabited by persons in easy circumstances; and the street *Mouffetard* is remarkable, on the contrary, for the misery and privations of its inhabitants. During the first 10 years of life, the proportion of deaths has been nearly twice as large in the Mouffetard as in the former streets. And out of a given number of deaths at home, the infants of the Mouffetard up to the age of one year have contributed as many as all the children up to the age of 10 years in the two other streets. †

* Resumé des Comptes Moraux. 1823.

† Mém. de l'Acad. Roy. de Médecine, tome i. Paris, 1828.

We must remark, with pleasure, that however large may be the actual mortality of the foundlings of Paris, it falls greatly short of former periods. From the year 1771 to 1777, of 31,951 who entered the hospital, 21,985 died in the first month; 3491 in the remainder of the first year; and at the end of 1777 only 4711 were alive: but, on the contrary, from the year 1789 to 1813, 109,650 were received, and only 39,330 died.*

Dr. Casper of Berlin published in 1824 an interesting collection of statistical facts, illustrative of the influence of vaccination on longevity, and diseases in that city. In the 10 years from 1782 to 1791, 4453 deaths occurred from small-pox. About 1800, vaccination was introduced at Berlin, and in the 10 years from 1802 to 1811 only 2955 died of small-pox; and, finally, in the 11 years from 1812 to 1822, only 555, about an eighth of the deaths which had occurred 30 years before. In 1789, one death out of every nine deaths in Berlin was occasioned by small-pox: the same proportion existed from 1801 to 1803; but from 1820 to 1822 only one death in 1635 was the result of small-pox.

In 1789, of every four children who died, one was a victim of the small-pox; but in 1820 to 1822, only one in 785. In the former year one

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* Foderé.

child of every eight born was sacrificed to it, but in the latter only 1 in 2066. An epidemic small-pox was formerly observed to occur at Berlin at the lapse of every three years: in 1803, its recurrence was first checked by the progress of vaccination. In the subsequent years this epidemic disposition has entirely disappeared under its influence. Casper combats, by certain documents, the notion that the other diseases of infancy have become more fatal since the introduction of vaccination: so far is this from being the case at Berlin, that if we compare the two periods, 1786 to 1789, and 1819 to 1822, we shall find that in the years prior to vaccination 39 children died out of 100 by the *other* diseases incident to their age; whereas, in the years protected by vaccination, only 34 out of 100 died by those *other* diseases.

At the Foundling Hospital of Vienna died annually above one half of all received, according to the average published in 1810. Since that time the fatality amongst this class has been much lessened by sending them to be nursed in the country; and when placed there, it has been found to fluctuate according to the plenty or scarcity of the current season. Before the introduction of vaccination, the destiny of childhood was still more precarious. From 1783 to 1793 considerably more than half of all the deaths occurred before the fifth year of age.

Every effort to rear the foundlings within the walls of the hospital formerly proved vain. In the most favourable years only 30 children out of 100 lived to 12 months of age; in the average years 20 out of 100 attained 12 months, but in bad years not even 10. The Emperor Joseph II. was anxious to improve their condition, and even desired Professor Boër to make a series of experiments with all kinds of food, that it might be ascertained if *diet* had any influence on the mortality. Twenty children were accordingly chosen as the subjects of experiment, and fed with various articles; but no conclusions were obtained as to their comparative merits, since the greater part of the subjects died within a few months. But in 1813, the government wisely determined that the Foundling Hospital should serve merely as a depôt for the children, until they could be transferred to the care of nurses in the country. The medical faculty made a report, in which they ascribed the mortality not to deficiency of nourishment, nor of cleanliness, nor of attention, but to the confinement of so many children together in a small space, to the vitiated atmosphere, to the noise, and to contagion, particularly with respect to diarrhœa. In 1822, under the new system of nursing in the country, the deaths had diminished from 1 in 2 (as in 1810) to 1 in $4\frac{1}{2}$.

At the Foundling Hospital of *Stockholm* 525 children were received in 1822, and 101 died,

or 19⅓ per cent.; 15 died in the first month, 6 in the second, 19 in the third, 15 in the fourth, 10 in the fifth, 3 in the seventh, when a marked diminution in the deaths commences.

From careful enquiries which *Malthus* made of the attendants at the Foundling Hospital at Petersburgh, in 1787, he understood that 100 deaths per month, and 10 admissions per day, was the common average.

The foundling hospitals both at Petersburgh and at Moscow have been always most carefully and liberally conducted, and yet at the latter city, during the 20 years subsequent to 1786, when the hospital was first instituted, of 37,000 children received, 35,000 at least are computed to have died. In 1811, the foundlings admitted into the hospitals appropriated to them were 2517, and the deaths were 1038. In 1812, 2699 were admitted, and the deaths were 1348.*

This evil has latterly increased in Russia: the admissions have increased, and the deaths have been augmented in proportion. In the province of Archangel, were, in 1812, 417 foundlings, and 377 of them were swept away in the same year.

At Barcelona, in 1821, the fifth part of all the children born was abandoned to the Foundling Hospital: 437 were admitted during the year, and 463 died. The number of

* C.T. Herrmann. Mém. de l'Acad. des Sciences de Petersbourg, t. ix. Petersb. 1824.

children remaining at the end of the former year is not stated, so that the exact proportion of deaths to admissions does not appear. During the year 1823, which was that in which the *counter-revolution* was effected, the deaths greatly exceed the births, contrary to what had previously happened; and so few were even the illegitimate births, that only 229 foundlings were admitted to the hospital during the very time that 339 died in it. This fact remarkably indicates the influence of political events in suspending the usual operation of habit and passion. We have no information respecting the foundling hospitals of Portugal, but the proportion of illegitimate births at Lisbon is rated so high as 1 in 3, and at Oporto, one half of all births.

The French established a foundling hospital at *Geneva* during their occupation, but it exists no longer. In the *Pays de Vaud* the proportion of illegitimate children was about 1 in 100 births, before the arrival of the French, an event which is considered by the Swiss to have left a permanent taint on their morality. The proportion has since diminished: it is now about 1 in 20.

The Foundling Hospital at Florence is well managed, and the mortality is not great, only 1 in 10, on account of the speedy removal of the infants into the country. A considerable number of the children were formerly the victims of what was supposed to be a syphilitic taint.

After a few weeks, or even days, they became pale and thin, were often covered with pustules and small ulcers *circa genitalia* and neighbouring parts, grew cachectic, and finally died in a state of marasmus. The use of mercury in this disorder was unavailing. Dr. Breschet of Paris has observed a similar complaint in the Foundling Hospital there, and believes that it has no connection with syphilis. His observations render it probable that it arises from an insidious inflammation of the abdominal viscera; and his view is confirmed by the diminution of the mortality since a treatment founded upon it has been adopted.

The mortality of the Foundling Hospital at Naples is 1 in 5 annually.

During the year 1823, 597 foundlings were received at the hospital at Palermo, and 429 died, or 72 per cent.*

Various writers have discussed the singular improvement which the progress of medical knowledge, in combination with the growth of general prosperity, has accomplished during the present century in the mortality of children. Sir Gilbert Blane and Dr. Casper must be named among the most powerful advocates of this interesting fact; but Mr. Roberton, one of the surgeons of the Manchester Lying-in Hospital,

* Bulletino Universale di Scienze, &c. No. 52. 1825.

has recently published the most complete work which at present exists on the subject.* To this book, and to the very excellent illustrations of it contained in the Edinburgh Medical and Surgical Journal†, all who wish to possess the facts which determine the question in this country must direct their attention.

Mr. Roberton furnishes us with a number of local tables from different parts of the kingdom, and the result indicates that the mortality of children is much larger in cities than in small towns, and more considerable in small towns than in the country. The causes are very apparent, particularly the bad air of crowded rooms, the poverty produced by more frequent and sudden vicissitudes of employment, the greater number of illegitimate births, to which must be added a less obvious but very destructive influence in the practice which prevails among the lower classes in towns of giving *unmixed spirits* to infants. Mr. Roberton declares that at Manchester the child is initiated by sucking a finger dipped into the poison. There is reason to believe, however, that this practice is not unknown to nurses among the higher classes of

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* Observations on the Mortality and Physical Management of Children. London. 1827.

† See the masterly review in the number for April, 1828, page 373.

this and other countries. The late Professor Gregory used to relate such instances in his lectures; and a celebrated diagnostic trait is recorded at Berlin of the late eminent physician *Heim*, who being suddenly summoned to attend an infant of the court in much apparent danger, roused the anger of the anxious circle by declaring that the child was only *drunk*, and subsequently verified his assertion at the expense of the nurse.

Several facts are scattered through this work illustrative of the diminution of infantile mortality in several parts of Europe. We shall here only add a few examples drawn from our own country. In *Warrington*, a manufacturing town, whose population is about 13,000, the average annual mortality of the nine years subsequent to 1772 was 1 in 26·48, and of these deaths 55·12 per cent. were of children *under ten years* of age. But the annual average of all deaths during the eight years after 1817 was 1 in 37·4, and of these the proportion *under ten years* diminishes to 44·65 per cent. An improvement nearly similar has occurred at Glasgow, on comparing the six years subsequent to 1782 with the six years previous to 1812. And here we remark with pleasure the correction of an important error which Dr. Watt had committed, and which requires the more notice, since it has been frequently repeated both at home and abroad as an argument against the efficacy of vaccination.

Mr. Roberton has the merit of having detected this important mistake. His view is confirmed by the ingenious writer in the Edinburgh Medical Journal, and we cannot explain it better than by using the words of the latter. Doctor Watt inferred from an examination of the Glasgow tables that the mortality of children had *not* improved between the two periods mentioned above; and that as a manifest diminution had taken place through the abatement of small-pox, the improvement must have been compensated by a corresponding increase of deaths from other infantile diseases, and especially from measles. Dr. Casper pointed out the error of this opinion in its application to Berlin. Mr. Roberton has still more strongly contradicted the conclusions of Watt by neutralising his own data. The statement of Watt was founded on the fact, that for six years subsequent to 1782 the deaths *under ten* were 53·48 per cent. of the total deaths, whereas in the six years previous to 1812 they formed 55·43 per cent. But unfortunatly for the accuracy of his inference, Watt did not take into account the great improvement which has arisen during the interval in the *total* mortality, and omitted to make the requisite correction, namely, by referring the infantile deaths to the population, instead of the general mortality. The result of this alteration will be easily perceived. In the

early period the average annual mortality was 1 in 26·7, and of the deaths 53·48 per cent. were *under ten;* that is, among every 1000 of the population there died annually 37·45, *of whom* 20·03 *were under ten.* In the latter period the annual mortality was 1 in 40·8, and of the deaths 55·43 per cent. were *under ten;* that is, in every 1000 inhabitants 24·51 died annually, of *whom* 13·58 *were under ten.* So that in reality the deaths among children in a given number of inhabitants had decreased to two thirds of what they were in the former period.

It would exhaust the patience of the reader to enter with minuteness into the influence of vaccination in diminishing the deaths from small-pox in different countries. That blessing has been checked in our own country by the caprice of the lower classes; but we shall state its effects in a country where the measure is enforced by the government. The following is an official return of the deaths in *Sweden*: —

In the year	1779	the small-pox destroyed 15,000 persons.
	1784	12,000
	1800	12,800
	1801	6,000
	1822	11
	1823	37

As it is well ascertained that *illegitimate* children die in a much larger proportion than

those who are born in marriage, we should be glad to compare the rate of such births in England with the average of other countries. We are, however, only able to produce a single instance. Mr. Roberton states that the proportion at Manchester was about 300, on an average of the three years, 1824, 1825, and 1826, or about 1 in 12 of all the births. This affords an estimate highly favourable in comparison with the cities of the Continent, and especially if we consider its large population of adults.

To illustrate the mortality arising from various diseases at different periods of childhood, Mr. Roberton has published a valuable table taken from the register at the *Rusholme Road Cemetery* in Manchester. He informs us that it is kept with unusual care ; and he has selected a period of four years subsequent to April, 1821, and including 2056 deaths under the age of 10. Of these, 994 (chiefly within the first year of life) arise from what are called in popular language convulsions, infantile decline, water in the brain, tooth fever and teething, worm fever, and bowel complaints.

Table of the Diseases which cause Death at various periods of Infancy.

Diseases.	Under 1 Month.	Between 1 and 2.	2 and 3.	3 and 6.	6 and 9.	9 and 12.	1 and 2 Years.	2 and 3.	3 and 5.	5 and 10.	Total.
Measles	—	1	1	5	8	25	117	72	50	20	299
Scarlet fever	—	—	—	—	1	—	—	1	4	2	8
Small-pox	—	1	2	5	25	17	49	30	44	14	187
Quinsey	—	—	—	—	—	—	—	—	—	1	1
Erysipelas	—	—	—	1	—	—	—	—	—	—	1
Swine-pox	—	—	—	—	—	—	—	—	1	—	1
Chin-cough	—	2	3	17	17	16	48	24	17	6	150
Croup	—	—	—	3	2	3	9	10	12	2	41
Inflammation of the lungs	—	1	3	14	36	17	42	12	21	9	155
Do. of the bowels	4	2	—	4	8	3	7	6	1	3	38
Do. of the brain	—	—	—	1	—	1	—	—	—	1	3
Inflammatory fever	—	—	—	—	—	—	1	—	—	2	3
Inflammation of the liver	—	—	—	—	—	—	2	—	—	—	2
Do. of the kidneys	—	—	—	—	—	—	1	—	—	—	1
Ulcerated throat	—	—	—	—	—	—	—	—	—	1	1
Mortification	—	—	—	—	—	—	—	—	—	1	1
Water in the brain	1	—	1	14	16	8	39	18	10	18	125
Convulsions	121	85	42	49	14	9	9	1	1	1	332
Fits	—	2	—	4	2	1	1	4	4	—	18
Asthma	—	—	—	—	—	—	—	—	1	1	2
Water in the chest	—	—	1	—	—	—	—	—	1	—	2
Disorder of the nerves	—	—	—	—	1	—	—	—	—	—	1
Dropsy	—	—	—	—	—	—	—	—	—	3	3
Brain fever	—	—	—	—	—	—	1	1	—	5	7
Continued do.	1	—	—	—	1	1	2	3	1	—	9
Typhus do.	—	—	—	—	—	—	1	1	—	6	8
Worm do.	—	—	—	—	—	—	2	7	1	1	11
Tooth do. and teething	—	—	—	12	34	47	78	9	1	—	181
Remittent do.	—	—	—	—	—	—	—	1	—	—	1
Rheumatic do.	—	—	—	—	—	—	—	—	—	1	1
Putrid do.	—	—	—	—	—	—	1	1	—	—	2
Cholera Morbus	1	1	2	6	1	4	4	1	—	1	21
Bowel complaints	5	11	7	17	15	12	10	4	2	2	85
Black thrush	—	—	—	2	—	1	1	—	—	—	4
Bilious complaints	—	—	—	1	1	—	—	—	—	—	2
Jaundice	—	—	1	—	—	—	—	—	—	—	1
Violent vomiting	—	—	—	—	—	—	1	—	—	—	1
Stoppage in the bowels	1	—	—	1	—	1	—	—	1	—	4
Infantile decline	7	10	9	39	34	22	66	—	20	23	260
Consumption	—	—	—	—	—	—	—	—	6	12	18
Decline after measles	—	—	—	—	—	—	3	1	1	—	5
Stricture of the bowels	—	—	—	2	—	—	1	—	1	—	4
Defect in the internal organisation	—	—	—	—	—	—	—	1	—	—	1
Inflammation of the head	—	—	2	—	—	—	—	1	—	1	4
Tumour on the hip	—	—	—	—	1	—	—	—	—	—	1
Inflammation in the groin	—	—	—	1	—	—	—	—	—	—	1
Inflammation in the neck	—	—	—	1	—	—	—	—	—	—	1
White swelling	—	—	—	—	1	—	—	—	—	—	1
Accidents	1	—	—	1	—	1	4	6	7	13	33
Unknown and lingering complaints	4	—	—	1	—	4	1	1	2	1	14
	146	116	74	201	218	193	501	246	210	151	2056

Mr. Robertson infers from this table the great importance of devoting an increased attention to the physical management of children. Upon this chiefly depends the healthy condition of their digestive organs; and we perceive, from the above table, that a large portion of their mortality originates in disorders of the first passages.

CHAP. IX.

STATISTICS OF ASYLUMS FOR THE INSANE.

A VERY general opinion exists of the increase of maniacal disorders, and it is probably correct; but it can be founded on general arguments alone, because it is only within a comparatively recent date that public asylums for the insane have become common throughout Europe, and they are at present very unequally distributed over its surface. The growth of such institutions is obviously due to the increased benevolence of modern times, and is not to be ascribed *so much* to the present particular pressure of the evil, as to the disposition, which is happily diffusing itself over Christian countries, to relieve every description of suffering.

Esquirol will not admit that insanity is specially increasing, but affirms that this notion arises only from the greater attention at present bestowed by the public on it, (an attention which is partly owing to the excellent essays which have appeared on the subject,) and from the improved economy of lunatic asylums, which attracts a larger share of inmates. (*Mém. Acad. R. de Méd.* t. 1.)

It is very difficult, perhaps impossible, in the present state of our information, to compare the prevalence of mania in different countries, because the documents furnished by each relate chiefly to the patients confined in public asylums, and rarely include the numerous portion remaining at home, or in the houses of private superintendants. Even the returns of hospitals afford little light on this point, because the proportion of such establishments to the wants of the population varies much in the respective districts.

The clergymen of all the parishes in Scotland (except fifty) made a return in 1818, which reckons,

In public asylums	441	600	in all 4833.
In private asylums	159		
With their friends		1356	
And at large		2877	

Of 4647 of the above, the large proportion of 3495 is stated to be fatuous and idiotic. The proportion of idiots in Switzerland is also very great; and we may remark that, in both countries, scrofula is very prevalent.*

A return made from Scotland to parliament, in 1826, states the number to be about 600 in public asylums and licensed houses: an estimate

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* Morison, Outlines of Lectures on Mental Diseases. Lond. 1826. p. 73.

which, compared with the former more detailed account, proves the insufficiency of such documents to explain the relative prevalence of this disease in different countries.

The most complete report of the causes of insanity is derived from the *Bicêtre* and *Salpêtrière*. During the five years from 1815 to 1820 4404 cases have been received in these asylums; of whom 1763 were men, and 2641 women. The following are the principal causes enumerated for both sexes: * —

	Men	Women.
Consequence of other diseases	236	—
Consequence of pregnancy	—	189
Consequence of the critical age, and of deranged menstruation	—	693
From onanism and debauchery	52	101
From hysteria	—	116
From ambition	134	—
From religion	54	30
From love	76	18
From misfortune	122	87
From chagrin	115	107
From political events	78	—
From fright	—	44

Esquirol has prepared a table explaining the *professions* of 164 persons thus afflicted. They occur in the following precedence: — Mer-

* Recherches Statistiques sur la Ville de Paris, &c. d'après les Ordres de M. le Comte de Chabrol, t. iii. 4to., Paris, 1826.

chants 50, soldiers 33, students 25, agents 21, advocates and notaries 11, artists 8, medical men 4, chemists 4, labourers 3, sailors 3, engineers 2.

In almost every country, except France, the number of male lunatics seems to exceed the females; and this exception may be easily understood to arise from the prominent and active part which the French woman usually plays in society, and even in retail trade. Of 2507 insane cases admitted into the public hospitals at Paris, 1095 were men, and 1412 women; but at Esquirol's private asylum, from 1802 to 1814, the men were 191, and the women 144. At Charenton, also, the male cases preponderated, from 1815 to 1823. The proportion at Lyons was 60 men, and 150 women.

In England: — of 7904 lunatics confined in private houses, from 1812 to 1824, the men were so many as 4461, and the women only 3443. Dr. Burrows remarks that, among the better classes confined in such houses in London and its environs, the proportion of men to women is nearly the same. He quotes from Esquirol a just compliment to Englishwomen, who, according to that author, are less subject to insanity than their French sisters, from their more solid education, their more domestic life, and the less active share which they take in the business of society. Casper, a German physician, writes in a similar

strain: he describes the female inmates of the French lunatic hospitals as coquettish and forward to an extreme point, and the toilette of those at the Salpêtrière as ridiculous; and contrasts the decent deportment and dress of the women who are found in the English asylums. At Bethlehem only one female addressed him, and the object of her enquiry was connected with the name of the German poet Gessner.

In Scotland and Ireland the proportion of the sexes affected with this complaint is nearly equal. At Zurich, in 1823, the sexes were nearly equal. In the hospitals of Berlin and Vienna the men have a large majority. With respect to Italy: in the asylum at Turin, the men in one year were 180, and the women 97; at the *Incurabili* of Genoa the men were 55 and the women 60; at the Senavra of Milan the number of women considerably exceeded, from 1802 to 1826, when 2799 men and 3207 women were received. In Pennsylvania, in 1812, the cases were two males to one female. Dr. Burrows, from whom these proportions are copied, believes that among the pauper lunatics of London a majority of females would be found. He adds, very justly, that *drunkenness* renders this disease more generally prevalent among men than among women.* At the Salpêtrière of Paris,

* Burrows' Commentaries on Insanity. 1828.

a 20th part of the female lunatics are reckoned to have become insane through prostitution.* At Amsterdam the females maintain a constant superiority in number, but in several of the smaller towns of Holland the men exceed.

It appears from calculations made by Esquirol and Georget that the mortality of the male sex, in this disease, is most considerable from the age of 30 to 40, and of the female sex from 40 to 60.

Horn has calculated that the most frequent age for the invasion of mania is 30 to 35 for men, and from 25 to 30 and from 45 to 50 for women.

Mania seems to be rare in Spain, as is also suicide; in Copenhagen, on the contrary, whose inhabitants are of a northern temperament, and far more advanced in knowledge, both evils are very common.

In the whole state of New York, in 1825, 819 persons were reported as lunatics. We may add, that the deaf and dumb were 645 in the same year.

Mania is stated to be very unfrequent in South America, and among the Indian tribes; and to be very prevalent in China. †

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* Burrows' Commentaries on Insanity. 1828.

† Morison, Outlines, &c.

This appears really to be one of the few important disorders which increase with the progress of civilisation and refinement. It is, perhaps, on this account, more common in our own than in other countries; but it is almost a solitary mourner in the train of prosperity, and is lost in the crowd of blessings which attend the extension of education and of affluence.

It must be remarked, that any public calamity has a tendency to increase the victims of this malady. The price of bread rose high in France in 1816; the lower classes suffered greatly; and in 1817, the Salpêtrière received a *double* complement of entries. In 1815, a similar scarcity prevailed in Ireland, and the number of insane at the Cork asylum is said to have suddenly risen from 74 to 210. In 1816 and 1817, a scarcity of grain was experienced in the Netherlands, and the lunatic asylums of Ghent, Louvain, Antwerp, Bruges, and Gheel acquired a remarkable accession of inmates.

With respect to the cures and mortality of such establishments, abundant materials exist, from which we shall select only a few.

In the kingdom of the Netherlands, of 4000 patients received in the public asylums of late years, 1577 were cured or discharged, and 1254 died. According to Nieuwenhuijs, 1248 entered the establishment near *Amsterdam* from 1797 to

1817, and 604 died. (*Guislain, Traité sur l'Aliénation Mentale. Amst.* 1826.)

At the Charité of Berlin, 413 insane were admitted from 1805 to 1815, and 117 died. The proportion of cures to admissions was 1 to 2 in 1816. *(Horn.)*

Müller informs us that 528 were admitted into the Asylum at Würtzburg from 1802 to 1823. Of these, 62 went away with some amendment, 17 left while under treatment, 292 were perfectly restored, and 78 died. (*Die Irrenanst. zu Würtzburg.*)

The Senavra Hospital at Milan presents the following results during the 25 years from 1802 to 1826. Most of the patients are of the poorest class, chiefly inhabitants of the low and swampy grounds in the neighbourhood of Milan, who have become the victims of *pellagra*, a disease which appears often to induce mental derangement.*

Proportion of males to females - -	87 to 100
Proportion of males to females cured -	57 to 59
Proportion of males to females dying -	40 to 45
Proportion of cures to admissions is -	58 to 100
Proportion of deaths to admissions is -	42 to 100

Dr. Burrows, junior, observed striking malformation of the cranium among many of the

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* Burrows' Commentaries, 523.

patients; several of them had the goitrous throat. The diet is good: extreme neatness and good order reign throughout.

At the Wakefield asylum, since it was opened in 1819, the proportion of deaths to admissions in males has been 28 in 100; in females 19½ in 100; in both sexes taken together 24 in 100.

At the Lancaster asylum, from 1817 to 1825, the proportion of deaths to admissions in males has been 25 in 100; in females 23 in 100; in both sexes together 24½ in 100.

The deaths in the York Retreat, from 1796 to 1819, have been about 20 in 100.

At the Bicêtre and Salpêtrière, during 1822, 1823, and 1824, the proportion of deaths to admissions in males was 25 in 100; in females 19 in 100; in both sexes together 22 in 100.*

Puerperal insanity constitutes one-twelfth of all the insane women admitted into the Salpêtrière, and sometimes a tenth. Among the upper ranks in Paris it appears still more frequent; Esquirol found the proportion in his private practice to be one in seven. Of 92 cases of puerperal insanity received during four years at the Salpêtrière, 6 died, or 1 in 15. It appears to be more frequent from delivery than from suckling, and more than half recover unless the predisposition be very strong.

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* Burrows' Commentaries, 556.

Esquirol divides insanity into two species, simple and complicated, and each species into four varieties. The proportion of poor women so affected at the Salpêtrière, and of those in his *private* establishment, who are persons in good circumstances, he has thus arranged.*

Simple Species.	In Salpêt.	In private Est.
1. Acute demency -	10	11
2. Chronic demency -	43	32
3. Senile demency -	35	2
4. Intermittent demency	7	2
Complicated Species.		
1. Melancholic demency -	34	20
2. Maniacal demency -	21	8
3. Convulsive demency -	4	6
4. Epileptic demency -	30	
	out of 289 Epileptics.	

Disorders of the uterine system constitute one fourth of the number, the progress of age more than a fifth, and mania and melancholia conjointly a seventh.

The most frequent *fatal* cases in the Glasgow asylum, of late years, are from apoplexy, palsy, atrophy, exhaustion, and pulmonary and dropsical affections.

In the Lancaster county asylum, atrophy, hydrothorax, and bowel complaints chiefly occur.†

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* Burrows' Commentaries. † Ibid.

We subjoin a classification of the affections of which the patients of the Paris lunatic hospitals have died, during the years 1822, 1823, and 1824.*

Organic diseases of the brain and its membranes	418
Diseases of the thoracic organs	198
Inflammations of the abdominal organs	306
Cutaneous inflammations	3
Cachexies	110
Surgical diseases	47
Diseases undetermined	9
	1091

* Compte Rendu, &c.

CHAP. X.

MORTALITY OF PRISONS.

With respect to the mortality of *prisons*, we have some very curious details from France, but very few of other countries. The highest mortality any where known amongst adults is at the Depôt of Mendicity of St. Denis, at Paris. Here the annual deaths are nearly 1 in 3 of every prisoner admitted. But the inmates are usually vagrants picked up in the streets of the capital, without asylum or resource, the victims of calamity, disease, or debauchery. Many are afterwards placed in other depôts, and when there appear to improve in bodily health under the power of habit, so that their mortality is ultimately reduced to 1 in 6, although their treatment is not bettered. At the generality of the prisons of Paris, as the Force, St. Pelagie, Conciergerie, &c., the ordinary rate of death is about 1 in 23 annually. Dr. Villermé deduces from this rate a conclusion, that residence in a prison abridges life of 20 years; and he applies the remark equally to prisoners for debt. On the other hand, in a solitary instance, a remarkable exception presents itself: the galley-slaves of

France are better fed and clothed than the other prisoners; they work in the open air, and are usually callous to the impressions of memory or of hope; the mortality of these beings is so low as 1 in 49, while that of the whole French nation is 1 in 40. But this small proportion of deaths is partly due to the absence of children from their list, as well as of men beyond 70, at which last age they are released.

These results are obtained by Dr. Villermé from the years 1815—1818.* The official newspaper, *Le Moniteur*, has endeavoured to disprove his statements, and to diminish the mortality; but it has drawn its calculations only from the first eleven months of 1824, and it allows that in 1818 the mortality of the Depôt of St. Denis was 1 in 7. Dr. Villermé has replied at length to its objections.

The annual mortality of the principal prisons in the Netherlands has been lately published by *Quetelet* as 1 in 27.†

The prisons of London present a record very different from the above, and in the whole range of medical statistics it would be difficult to find a more striking contrast. I am fortunately enabled to adduce the testimony of my

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* Des Prisons telles qu'elles sont, et telles qu'elles devraient être. 1820.

† Mém. Acad. R. de Bruxelles, t. vi. Brux. 1827.

eminent friend Mr. Samuel Cooper, the author of the valuable *Dictionary of Surgery*, who, in his capacity of surgeon to the *King's Bench* and *Fleet* prisons, has furnished me with the following document.

Of 300 prisoners received in the Fleet prison during the year ending the 9th of March, 1828, only four died, which is a mortality *of* 1 *in* 75. The diseases of which they died were, one of *fever*, aged 40; one of pleurisy, aged 45; and two of consumption, aged 28 and 70. Mr. Cooper finds that the average mortality of the *King's Bench* and *Fleet* prisons ranges between 1 in 50 and 1 in 55.

So great was the care taken of prisoners of war in this country, that in the year 1813, the mortality amongst them was only 1 in 55, not one half of what occurs to the whole population of Rome, although these persons were labouring under most of the privations which embitter or enfeeble existence.

CHAP. XI.

COMPARATIVE PREVALENCE OF SUICIDE IN DIFFERENT PERIODS AND COUNTRIES.

Suicide is so frequent a topic of allusion in medical writings, and so often depends on the deranged state of body or mind, that it seems to merit a place in medical statistics. We have here a very pleasing conclusion to draw in respect to England, as, in spite of ancient prejudices entertained against our supposed propensity, it really appears that the English are less disposed to suicide than any other people who have attained a similar grade of civilisation.

Dr. Burrows has the merit of having first vindicated our country from the conjectural report of a peculiar proneness to suicide, which, like some other current accusations of England, had been so often repeated abroad and at home, that it was at length established into an axiom. The happy superiority which England enjoys in many respects ensures a prompt circulation to any charge which can be produced against a point supposed to be vulnerable. The proofs which Dr. Burrows published have been by

some foreigners rejected as unsatisfactory, on account of the acknowledged imperfections of the bills of mortality, in which the suicides of London are recorded. But even if those returns had been multiplied by four, five, or six, certainly a liberal allowance for deficiences, the proportion, in relation to our population, would have been inferior to the returns of some of the cities of the Continent. Fortunately, however, a document has been more recently published, which enables me to satisfy all who have no secret wish to retain an unfounded prejudice. It is well known that a coroner and jury are summoned to investigate every suicide which occurs in Westminster. Mr. Higgs, the coroner of the city of Westminster, made, in 1825, a report of the suicides committed in Westminster during the 13 years previous. In order to furnish easy means of comparison, we must premise that the population of Westminster, according to the census of 1821, was 182,444. We may add, for the use of strangers, that it is the centre of dissipation for the whole empire. During the 13 years from 1812 to 1824, the *total* number of suicides was only 290, a number which, *if trebled*, would be inferior in proportion to the returns made by the great cities of France and Germany.

The number of males in this table is 207, of females only 83, which is a proportion of

5 to 2. The *Novembers* of these 13 years produce only 22, while the rate of the *Junes* is 34. In the years 1812, 1815, 1820, and 1824, November did not afford one suicide. The least prolific months were May and September, next August and October, and then November. During the latter eight years, a reduction occurred on the average of nearly six per annum. The annual average is a little more than 22 during the whole term. From motives of humanity, the juries gave a verdict of *insanity* in all but five instances. In 1825, a year marked by commercial distresses, the total number was 24 : of these, two women had been seduced and abandoned, and one man cut his throat through jealousy, eight poisoned themselves, and eight were found hanging.

The annual number returned by the bills of mortality for London usually ranges between 30 and 50. After making every allowance, we may estimate the number of suicides annually accomplished in London and Westminster at about 100. In England and France a majority of the victims appear to be *unmarried.* In France, the proportion of married men to single amongst suicides has been rated as only 2 to 3.*

Other countries certainly present a darker

* Dict. Sciences Medic. art. Celibat.

picture. We are not surprized at finding the number of 1300 recorded for Versailles in 1793, a year of political storm, and of dreadful anticipation to its inhabitants. In 1806, Falret asserts that the suicides of Rouen amounted to 60 during the months of June and July alone. Professor Grohmann notes a remarkable increase at Hamburg: — in 1816 the number was only 2, in 1820 it rose to 10, and 1822 produced so many as 59. In the small district of Frankfort-on-the-Main the number in 1823 was 100.

In 1806 there were 300 at Copenhagen: — of late years the annual average has been 100 in 100,000 inhabitants. In Berlin, according to Casper, the proportion is 34 annually in every 100,000 inhabitants, and in Paris 49. The increase in Prussia, and particularly in Berlin, is extraordinary. In the 17 years following 1758, the proportion at Berlin was 1 suicide in 1800 deaths. But in the 10 years following 1787 the proportion is seen to double itself, becoming 1 in 900 deaths. In the 10 years following 1798, it is trebled; and in the 10 years ending in 1822 it arose to the formidable height of 1 in every 100 deaths. These numbers, large as is their amount, do not include many who are found drowned in the river, and whose fate is dubious. In 1817, the proportion for the whole Prussian nation was 1 in every 400 deaths. We must remark on the comparative frequency of

this crime amongst *boys* in France and Germany. We should not venture to state the curious fact of the existence of a *suicide club* in Prussia, except on the authority of Dr. Casper, an eminent statistical writer resident in Berlin, a city where every work is submitted to the *censure*. This club consisted of six persons, who avowed openly their intention of destroying themselves, and endeavoured to gain proselytes. Their absurdity excited more laughter than belief, but three instances occurred of conformity to principle, and at length all the six evinced their sincerity: the last shot himself in 1817.

In Berlin it seems to be more frequent among weavers and soldiers than in other classes of society, and, on the whole, is principally seen among the lower classes. It is more common among the females of Paris than among those of Berlin, in a twofold average; which might be anticipated from the more retired and unambitious path of the German woman. During six recent years, 18 cases happened at Berlin of individuals under the age of puberty, and 11 of men above 70. So far more numerous are the *civic* cases than the *rural* ones in Prussia, that while the proportion in its towns is 14 in every 100,000 inhabitants, the country exhibits only four in the same number.

Dr. Casper, the enlightened writer who has collected many of the above facts, and who has

ingeniously commented upon them, attributes a large share of the increase in Berlin to *drunkenness.* From 1812 to 1821, a fourth of all the number arose from this evil; and it is probable that many assigned to other causes were really indebted to this. The increase of liquor shops at Berlin will illustrate this, as in 1822 one house in every four was appropriated to this trade; an arrangement which allots 130 of the total population to the maintenance of each house; but after the deductions of the diseased and the young, a very inferior proportion.

The crime appears to find very few victims in *Spain:* in the whole of that country only 16 instances are officially reported to have occurred during the year 1826. In all *Sweden,* in 1823, there were only 151 suicides. Only 13 suicides occurred in the city of Naples during the year 1826: the same number happened in 1823, and only seven in 1824.

During the four years from 1823 to 1826 only 4087 suicides occurred throughout the empire of Russia.

Imitation, — a principle which, it is to be feared, is but too frequently the cause of other offences, — seems occasionally to produce suicide. At a meeting of the French Academy of Medicine, *Costel* lately mentioned, that a soldier at the Hôtel of Invalids hung himself on a post, and was shortly afterwards *imitated* by *twelve*

other invalids; but that the disposition ceased on the removal of the fatal post. Dr. Burrows relates some similar instances. In a regiment at Malta suicides became alarmingly common. The commander, having vainly tried other means, resolved to deny Christian burial to the next suicide. Another instance occurred. The regiment was drawn out, the corpse was stripped naked, placed on a hurdle, and thrown into the fosse with every mark of indignity. The spirit of imitation immediately ceased. Primrose relates that the women of Lyons were seized with a propensity to commit suicide by throwing themselves into the *wells* of that city. In 1813, in the little village of St. Pierre Monjau, in the Valais, one woman hung herself: many others followed her example; and had it not been for the interposition of the civil authorities, the contagion might have spread.

At the meeting of the French Academy, alluded to above, Esquirol related six cases occurring of persons being seized with the propensity to destroy their children since the trial of Madame *Cornie* for that crime.*

There is reason to believe that suicide, as well as other evils, has a tendency to propagate itself in this country by the long and laboured details

* Burrows, Commentaries on Insanity, p. 438.

which are so often circulated in our newspapers. The attention once drawn to a particular subject, gradually attaches itself fondly to the topic, in unoccupied or ill-governed minds. And, as if not satiated with the vices arising on our own soil, our journals are perpetually ransacking foreign countries to produce varnished tales of misery and crime, or to excite a sardonic laugh over the ruins of human nature.

At New York the number of suicides has varied annually from 13 to 29, between the years 1816 and 1826. At Philadelphia the number has fluctuated between 2 and 13 annually, from 1820 to 1826. At Baltimore between 2 and 7 from 1819 to 1826.

The most remarkable body of information which has yet appeared on the statistics of suicide is due to the industry of Dr. *Falret* of Paris. M. de Montyon, a wealthy and zealous philanthropist, bequeathed at his death various legacies devoted to the benefit of mankind; and among them, a prize for the best statistical essay. Dr. Falret contributed one on the present subject, which, although it did not obtain the preference, has been deservedly rewarded by the Minister of the Interior with a second medal. Some of his tables relate to the suicides registered by the police of Paris from the year 1794 to the year 1825 inclusive, and others to the *sudden deaths* which have also been recorded

by the police, during the 30 years ending in 1823.

The entire number of suicides entered by the police at Paris during the 30 years from 1794 to 1823 was 6782. Of these 4720 were accomplished. Two thirds were of the male sex. The average number for each of the 10 years commencing from 1794 was only 107, but for each of the 10 years ending in 1823 the average was so great as 334.

Not quite a third of the whole number were *married:* of this married third 960 were men, and 735 were women.

As to the *age* of the suicides, we are surprized by finding that 181 were below the age of 15, and that 497 were between 15 and 20. The period of life which affords the largest list is between 35 and 45. Drowning was the mode of death most frequently chosen; the second mode is by fire-arms; and next follow in succession, *precipitation*, strangling, cutting or pointed intruments, the vapour of charcoal, and, lastly, poison. It must be admitted, that a considerable number of those enrolled as suicides fall rather within the philosophical than the popular acceptation of that term; since many owed their end to drunkenness, and other physical causes.

The *moral* causes entered on the police-registers are instructive, in the light which they

throw upon national character. Amongst them are enumerated of

Unfortunate love -	254	instances,	
		of which	157 were female.
Jealousy and envy	92	- -	53
Wounded self-love -	53	- -	equal in both sexes.
Dishonour and calumny	125	- -	97 male.
Remorse -	49	- -	37
Disappointed ambition	122	- -	110
Reverse of fortune	322	- -	283
Gaming - -	155	- -	141
Other misconduct	287	- -	208
Domestic chagrin -	728	-	524
Misery - -	905	- -	511
Fanaticism -	16	-	1
Misanthropy -	3	-	3

The results of these tables are favourable to the character of the female sex; and not least in the circumstance, that, of 1758 instances, where causes are not assigned by the police (from ignorance or from a prudent silence), 1381 belong to males.

September was the month most prolific of suicide; March and October approach most nearly to it: January, February, December, and November fall greatly below them in number. The five months of spring and summer, between March and September, are, on the whole, the most productive season of the year. *

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* Rapport sur le Prix de Statistique decerné par l'Acad. Roy. des Sciences, pour l'Année 1827.

The number of persons taken out of the river amounted in 1820 to 260. From enquiries made in that year the inference was drawn, that 64 per cent. of the drowned have destroyed themselves. About an eighth part of the whole number were restored to life.

A *suicide club* is *said* to have existed lately at Paris, but the members were not likely to become numerous: they were 12, and the leading regulation directed, that one member should be annually selected to put an end to himself.

Among Roman Catholics the disposition to suicide appears far less prevalent than in Protestant communities.* It would be easy to dilate on the sources of this disproportion. Blumerbach made the observation in respect to Switzerland, and Casper has established it relatively to Germany. It is very rare among the *Jews* of Germany, partly from the dread of ridicule which disinclines them towards taverns, and partly from the beneficence of the wealthy members towards the indigent of their own race.

Climate, then, cannot be considered as a cause, and no one will hereafter ascribe it to changes of weather.

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* Casper, Beiträge, zur Medicinischen Statistik und Staatsarzneikunde, 85. Berlin. 1825.

Although the average of most countries affords a large majority of male suicides, yet, in particular districts, the proportion varies. My friend, Dr. Macmichael, informs me, that the Middlesex Hospital (which is situated in a parish overstocked with the victims of prostitution) received during 16 recent months 20 cases of *attempted* suicide by poison, of which no less than 16 were females.

We may conclude, that it is more frequent in the lower ranks than in the middle ones: in nearly 152,000 persons insured at the *Equitable Office* only 15 cases occurred during 20 years.

CHAP. XII.

COMPARATIVE PREVALENCE, INCREASE, AND DECREASE OF DISEASES IN DIFFERENT COUNTRIES AND CITIES.

The progress of refinement is commonly denounced as a fountain of new maladies, continually branching out into fresh streams of evil, and gradually destroying the roots of the supposed natural health of man. But the history of medicine is far from favouring this idea; and if a few diseases not previously described have sprung into modern notoriety, a catalogue of ancient ones more numerous and more formidable is become nearly extinct. We shall first offer a few tables of the diseases which at present prevail in some of the most remarkable parts of the globe, and shall afterwards throw a restrospective glance on those which were the bane of former ages.

PRUSSIA.

The government of Prussia deserves the highest praise for the encouragement which it affords to statistical enquiries. The following table presents a summary of the causes of death in that

country during the year 1817, and was published under the sanction of the director of the *Statistical Office* of Prussia. It explains the proportion among 10,000 males, 10,000 females, and 10,000 of both sexes combined.

	Males.	Females.	Sexes combined.
Of old age - - -	950	1080	1013
Chronic diseases - -	4205	4291	4241
Acute diseases -	2241	2573	2008
Sudden death - -	770	676	0725
External diseases - -	244	199	0222
Unknown diseases - -	710	693	0702
By disease in general -	8170	8022	8098
Infants still-born - -	507	409	0460
Women in child-birth -		273	0132
Small-pox - - -	95	98	0096
Hydrophobia - -	7	8	0007
Accidents and violence -	233	100	0169
Suicide - - - - -	39	10	0025
	880	898	0889
General Total -	10,000	10,000	10,000

According to the computation of the late Dr. Friedlander, the following are the general inferences from the above table. In time of peace, the 10th part of the population of Prussia arrive at the natural term of life. Accidents (including the small pox) produce about an 11th part of the deaths. Four fifths die of disease. Amongst

10,000 births, 310 are still-born, or a 32d part; and 89 mothers perish, or 1 in 112. A ninth part of the deaths of children is owing to neglect of vaccination.*

FRANCE.

According to the report of the Council of Health for 1823, pulmonary phthisis destroys about a fifth part of the inhabitants of *Paris*, and pulmonary catarrh a 12th part. Apoplexy and *intestinal catarrh* are next on the list of fatality, and are followed by *gastritis*, scirrhous and cancerous affections: convulsions, the small-pox, and croup, are the most destructive diseases of infants.

Dr. Falret has found, on examination of the registers of *sudden deaths* preserved by the police of *Paris* during the 30 years from 1794 to 1823, that *apoplexy* has been more frequent, by one third, during the 10 years following 1804 than during the 10 which preceded it. Amongst 2297 cases recorded for 30 years, 1670 were male and only 627 female. He has ascertained that the greater number occurred between the age of 55 and 65, and next between 45 and 55. The period of

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* Dict. des Sciences Medicales, art. Statistique.

life between 35 and 45, and that between 65 and 75, afford an equal proportion. As to the influence of *seasons*, the spring, and particularly the winter, produced the most considerable number; the summer was least fatal, and the autumn forms nearly the mean.*

We subjoin the principal causes of death to all the inhabitants of Paris during the year 1818, distinguishing the sexes. The nomenclature is unfortunately obscured by the vagueness of the modern French nosology.

	Men.	Women.
Fevers, putrid or adynamic	400	443
—— malignant or ataxic	391	424
—— undetermined	171	319
Phlegmasiæ, cutaneous	746	649
—— of mucous membranes	1237	1453
—— serous membranes	202	281
—— cellular texture, and parenchymatous organs	1454	1858
Comatose affections	496	503
Spasmodic affections	787	732
Local nervous affections	501	512
General organic lesions	1895	2063
Particular organic lesions	802	900
Gangrenous inflammations	80	101
Died in child-bed		75

RUSSIA.

According to *Krafft*, pleurisies destroy one fourth of the whole population of *Petersburg*,

* Rapport sur le Prix de Statistique decerné par l'Acad. Roy. des Sciences, pour l'Année 1827.

fevers one third, and consumptions one sixth. These three forms of disease constitute five sevenths of all the deaths. From his observations it would appear that the half of all who are born there attain to the age of 25, a proportion which should indicate a degree of health in *early* life very uncommon in large cities, but *after twenty* a mortality much greater than occurs in any other town in Europe, and which is justly attributed to the immoderate use of brandy.*

ICELAND.

The most common disorders in Iceland are phthisis, and complaints of the thorax: the males are most subject to those from their exposure and early toils. Besides the ordinary ailments of infancy, the *trismus nuscentium*, or locked-jaw of infancy, is considered as a scourge of the island. It often becomes epidemic, and cuts off the infants of a whole district. The sea, the cold, and the snow destroy a large proportion of the inhabitants, according to the journal cited below, and yet the proportion of deaths is not so large as in some of the southern parts of Europe: it appears not to exceed 1 in 38 or 39 annually. Nervous and catarrhal fevers frequently occur

* Malthus and Tooke

epidemically, and prove very fatal. The itch is the most common disorder in the island, through the uncleanly habits of the people.*

SWEDEN.

From *Nicander*'s table of the deaths from disease in Sweden and Finland during the 21 years ending in 1795, 134 persons died annually of pulmonary consumption throughout the entire kingdom among every 100,000, but in the *city* of Stockholm five times that proportion were its annual victims, and in Carlscrona (a less populous town) about twice the former proportion. In 1823, 309 individuals, throughout Sweden, died of measles, 5 of hydrophobia, and 152 of venereal diseases.

UNITED STATES.

At New York, phthisis appears to engross a fifth, and sometimes only a sixth of all the deaths. At Philadelphia, a seventh, and sometimes only an eighth.

The following table shows the deaths which have occurred in every month at New York, from the diseases under-mentioned, during the 11 years from 1816 to 1826. †

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* Notiz. ans d. Geb. der Natur und Heilkunde. Aug. 1824.

† Medical Statistics; or, a Comparative View of the Mor-

Diseases.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Phthisis -	660	659	644	664	616	510	591	663	579	585	645	650	7466
Acute diseases of the lungs	220	292	254	230	210	114	117	105	92	141	152	172	2069
Fevers - -	178	137	158	186	211	245	262	374	497	441	305	211	3205
Dropsies -	244	257	241	245	259	242	272	308	269	259	210	245	3044
Dysentery	22	14	29	7	16	28	233	489	378	203	79	36	1544
Cholera infantum (10 years)	2	2	2	1	5	32	246	527	288	108	14	18	1245
Croup -	137	106	122	106	91	66	69	6	84	140	139	122	1239
Marasmus -	68	66	85	95	79	69	80	12	139	135	89	84	1115
Gastro-enteritis	48	54	56	60	60	76	121	9	94	69	67	59	861
Hooping-cough	53	66	42	33	37	31	73	10	105	71	56	49	721
Apoplexy	49	59	56	47	57	45	109	57	45	59	55	57	697
Measles -	48	42	46	45	32	44	65	7	45	39	24	45	552
Intemperance	49	32	33	31	49	47	46	43	44	47	63	47	531
Diseases of liver	48	46	34	35	34	39	57	44	36	64	41	50	528
Palsy - -	42	42	44	31	28	28	31	38	25	41	34	44	428

This table not only indicates the diseases which are most fatal at New York, but also explains the influence of the seasons on each complaint. We perceive that phthisis, dropsies, disorders of the liver, and palsies, which are chronic affections, are not more or less fatal in particular months. On the contrary, the effect of season is very marked on all the acute disorders. To understand better the inferences, we should state that the population of New York was, in 1816, above 110,000, and that it has gradually increased to 176,000 in 1826. Of 718 blacks who died in 1827, about 100 were victims of phthisis.

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tality of New York, Philadelphia, Baltimore, and Boston. By N. Niles, jun. M. D. and J. D. Rush, M. D. 8vo. New York, 1827.

The deaths from small-pox were 149 in the year 1827, which is an excess of 91 above the year 1826.

WEST INDIES.

Dr. Alison, in his very instructive essay on the Pathology of Scrofulous Diseases *, has inserted a communication from Dr. Ferguson on the deaths and chief diseases occurring in the army, in the Windward and Leeward Islands, in the West Indies, from March 1816 till March 1817, distinguishing the deaths among the white and the black troops. The average strength of the army, during the year, was 7337 whites, and 5772 blacks; and of these there died, —

	Whites.	Proportion to the whole.	Blacks.	Proportion to the whole.
Of fever - -	477	1 in 15·3	38	1 in 151·8
Of dysentery - -	342	1 in 21·4	98	1 in 58·9
Of pulmonic complaints	82	1 in 89·1	128	1 in 45
	901		264	

We perceive that fever caused ten times as great a mortality among the white troops as among the blacks, and dysentery nearly three times as great; but that pulmonary complaints caused

* Transactions of the Medico-Chirurgical Society of Edinburgh, vol. i.

twice as great a mortality among the blacks as among the whites. The blacks were thus attacked chiefly in the elevated situations in the interior of the islands, where the heat is least oppressive.

IRELAND.

The following table * exhibits the diseases which prevail among the poor of Dublin, and the comparative number afflicted with each, as they appear on an average of several years, from the reports of the different Dispensary Institutions : —

Apoplexy	21	Dropsy, anasarca	337
Amaurosis	18	—— ascites	240
Amenorrhœa and chlorosis	285	—— of the chest	84
Asthenia	75	—— of the ovarium	9
After-pains	24	Erysipelas	105
Catarrh	123	Ear-ache	36
Cholera	354	Epilepsy	12
Colic	216	Fever not contagious	105
—— of Poitou	15	—— intermittent	102
Cough and dyspnœa	3765	Hæmorrhage from the lungs	156
Consumption	387	—— from the nose	30
Dysentery	345	—— from the stomach	15
Deafness	66		
Diarrhœa	381		

* History of Dublin, by Warburton, Whitelow, and Walsh, vol. ii. p. 1343. Lond. 1818.

Hæmorrhage from the uterus, and abortion	93
Heart-burn	36
Head-ache and vertigo	306
Hemicrania	18
Herpetic eruptions	153
Hooping-cough	15
Hysteria	48
Hydrophobia	3
Hypochondriasis	15
Inflammation of the eye	507
——— ear	6
——— intestines	21
——— kidneys	3
——— lungs	243
——— liver	90
——— mamma	15
——— peritonæum	42
——— parotid gland	21
——— tonsils	642
——— trachæa	3
Indigestion	792
Idrosis	12
Insanity	30
Itch	93
Jaundice	39
Leucorrhœa	162
Lumbago and sciatica	297
Measles	108
Menorrhagia	165
Nettle-rash	24
Opacity of the cornea	36
Peripneumonia notha	162
Pleuritic stitches	1020
Pains of the stomach and bowels	75
Paralytic affections	90
Palpitations	135
Piles	69
Petechiæ et purpura hæmorrhagica	12
Prurigo	30
Psoropthalmia	45
Porrigo capilis et barbæ	66
Pulmonary consumption	399
Rheumatism, acute	533
——— chronic	549
Retroversio uteri	3
Rickets	6
Scarlatina	1024
Small-pox	114
St. Vitus's dance	3
Scrofula	42
Spasms	15
Typhus	807
Tabes mesenterica	15
Tape-worm	12
Tenesmus	135
Tooth-ache	57
Trismus dolorificus	6
Venereal complaints	78
Vomiting	147
Worms	216
Wry-neck	18
Water on the brain	42

ENGLAND.

In respect to the increase and decrease of diseases in England, an important table has been

lately published by Mr. Morgan, the Actuary of the *Equitable Insurance Office*. It gives a complete statement of the supposed causes of the deaths which occurred among the persons whose lives were insured in that office from 1800 to 1821. The number of individuals insured during that time is stated by Mr. Morgan to have been nearly 152,000. They were composed chiefly of the middle or easy classes, and of every age from ten years upwards. Mr. Morgan, who was formerly a member of the medical profession, considers this table as a fair estimate of the diseases of this country, —but, we must add, more especially of its middle classes. The certificates of the diseases were principally signed by medical men. We perceive that the total deaths were 1930. The greatest number of deaths under any one head is 262 for *natural decay and old age*. This is a remarkable feature, because it indicates that about a seventh part of the deaths were not apparently owing to disease. Apoplexy is next the most fatal agent; consumption follows far behind. General fever then presents itself. The principal diseases follow in this order,—Dropsy, palsy;—hydrothorax makes one 19th of the whole, and its chief victims were between 50 and 60 years of age;—then diseases of the liver, inflammation of the bowels, and of the lungs. The cases of calculous disorder

were 8. There is not a single death from small-pox, measles, nor scarlet fever.

Angina pectoris presents a large proportion of 44. Gout affords 26 deaths.

The deaths from *accidents* were 19.

The deaths from consumption are scarcely 1 in 12, which is very different from the usual proportion in the general population, and indicates, in this particular, as in so many others, the conservative power of affluence.

But the fatality of consumption has begun to diminish also in regard to the general population of London. At the close of last century the deaths from this disease had gradually increased from about 15 per cent. to 26 per cent. of the total mortality. From 1799 to 1808 they still increased, being then above 27 per cent. From 1808 to 1818 they however declined to 23 per cent., and from 1818 to 1825 they have become still less numerous, being at length only 22 per cent., nearly the same proportion as at Paris: at Vienna it is about 17 per cent.

DISEASES.	AGES.								
	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80, &c.	Total.
Angina pectoris	—	—	5	11	12	9	4	3	44
Apoplexy	1	3	19	38	69	69	38	5	242
Asthma	—	—	—	2	19	19	11	2	53
Atrophy	—	—	3	4	6	11	1	—	25
Cancer	—	—	1	4	10	8	1	1	25
Childbirth	—	—	2	2	—	—	—	—	4
Consumption	2	9	34	31	44	28	5	—	153
Convulsion fits	—	—	3	4	1	3	—	—	11
Decay (natural) and old age	—	—	—	—	5	72	127	58	262
Diabetes	—	—	—	2	2	—	1	1	6
Dropsy	1	—	7	28	38	41	20	2	137
—— in the chest	—	1	3	18	34	28	16	—	100
Dysentery	—	—	1	1	2	4	4	—	12
Disease of the stomach and digestive organs	—	—	5	4	8	8	1	—	26
Disease of the liver	—	2	5	24	23	21	4	—	79
—— —— bladder and urinary passages	—	—	2	4	15	23	15	—	59
Epilepsy	—	—	2	3	2	1	2	—	10
Erysipelas	—	1	3	2	3	2	2	—	10
Fever, general	—	6	18	33	33	39	15	2	146
—— bilious	—	1	4	8	9	4	1	1	28
—— nervous	—	3	3	13	6	8	3	—	36
—— inflammatory	—	—	—	4	6	3	2	—	15
—— putrid	—	2	7	4	6	7	—	—	26
Gout	—	—	1	4	4	11	6	—	26
Inflammation of the bowels	1	2	11	13	15	25	9	1	77
—— —— lungs	—	—	9	4	24	22	12	2	73
—— —— brain	—	3	7	5	5	3	—	—	23
—— —— chest & peripneumony	1	1	1	1	6	7	4	1	22
Palsy	—	1	3	8	26	42	34	2	116
Quincy	—	—	—	1	1	1	—	—	3
Rupture of a vessel	—	—	7	14	13	12	3	—	49
Slain in war	1	1	1	1	—	—	—	—	4
Stone	—	—	—	—	1	2	4	1	8
Suicide	—	1	2	3	7	2	—	—	15
Water in the brain	—	—	—	1	3	1	—	—	5
	7	37	166	299	458	536	345	82	1930

One of the most interesting and important contributions which could be made to medical

literature would be a detailed history of the *origin*, *progress*, and *revolutions* of diseases in different times and countries, comprehending an ample estimate of the influence which political and moral events have exercised on their fluctuations, and indicating the measures of police and of domestic economy, which analogy may suggest to restrain or to divert their future current. This remarkable section of the philosophy of medicine remains as yet unwritten, if we except the excellent essays which Heberden and Blane alone have supplied towards its illustration. The facts and reflections which these authors have communicated in a concise form are of the greatest value, and will probably be more highly appreciated in a distant century than at the present moment. This chapter would be incomplete without a brief statement of the results which they have presented, and we are not acquainted with any other sources of collective information on the subject. It must be premised that they relate chiefly to what has occurred in our own country.

I. Some diseases have arisen, and have since disappeared. Of this description are the *leprosy* and the *sweating sickness*. The leprosy appears to have committed the most extensive ravages, and to have had hospitals erected solely for its relief. It became general throughout Europe in the twelfth century, and is supposed to have

been imported by the Crusades. It has not been known in Europe since the beginning of the sixteenth century. The sweating sickness is supposed to have been introduced into England by the army which invaded it under Henry VII. It prevailed from 1485 till 1551, and in some years during one month in autumn with a fatality nearly approaching to the plague.

II. The diseases which have arisen but have not disappeared are the small-pox, the measles, perhaps all the other specific contagions, and syphilis. Though the exact period of the origin of each cannot be ascertained, we have reason to believe that there has been a time when no one of these was known.

III. The diseases which have prevailed with various degrees of frequency and fatality at different periods are the plague, the dysentery, intermittent fever, typhus fever, the small-pox, syphilis, the scurvy, and the rickets. The first occurrence of the *plague* in English annals is in the year 430. The last year in which it was epidemic here was 1665, and the last year in which we find it mentioned in the bills of mortality is 1679. In another part of this work allusion is made to the causes of its discontinuance. Not only the bills of mortality but professional and other writings afford the most incontrovertible evidence of the great and rapid decline of dysentery and intermittent fe-

vers. A considerable mortality is assigned to the *scurvy* in the London *Bills* of the seventeenth century: the scanty supply of fresh vegetable food for man, and of winter fodder for cattle (which made it necessary to slaughter and salt them for winter use), and the uncleanness and dampness of the streets and houses, explain its prevalence at that time, and its extinction at the present. Even at sea, it is now nearly as uncommon as at land, in consequence of the improved diet, cleanliness, and general supply of lemon-juice. There is no doubt of the great decrease of *rickets*, in common with the other complaints of children. It was first described by Glisson, and is first enumerated in the bills of mortality for the year 1634.

IV. Some diseases are more prevalent in modern times than formerly; such as the scarlet fever, consumption, gout, dropsy, palsy, apoplexy, mania, and generally all those diseases of which the brain and nerves are the seat. The increase of opulence, which enables a larger proportion of society to exist without the necessity of bodily labour, the diffusion of intellectual pursuits, the increasing number of sedentary occupations, and the multiplication of political interests, have all conspired to bring the latter class of diseases into more conspicuous action; and they will probably be developed in

every country in the proportion in which these conditions arise or proceed.

The diseases which chiefly occur in *savage* nations appear to be fevers, fluxes, and rheumatisms. One cause of exemption from many diseases, is, probably, the loss in infancy of all those children who are weak and sickly, but who are preserved in civilised society by skill and nursing, until they become in more advanced years the victims of other diseases.

If we agree with Blane in referring the remote causes of all predominent disorders to three general heads, namely, the vitiated exhalations and secretions of the human body, the noxious exhalations of the earth, and depraved habits of life, it will be easily perceived that the greater number of diseases are by their nature very much subject to human control. And the triumph which has been already obtained over several maladies by the progress of knowledge, and of affluence, affords great encouragement to our endeavours to conquer others. Without alluding to the diminution of small-pox by vaccination, the counteraction of typhus by means of cleanliness and ventilation, and of agues by draining marshes, by construction of sewers, and by cleansing the streets, are proofs of the empire of human art over disease. It would not be difficult to multiply instances, but it will occur to every one,

that the introduction of *linen* and soap, the greater facility of procuring fuel, the more ample supply of water, the widening of streets, and the increasing abundance and choice of provisions, have contributed in various degrees to banish some diseases, and to mitigate others.* Altogether it appears that the two extremities of social life, its infancy and its maturity, are the most exempt from the visitations of disease, and that the intervening period of transition from barbarism to high civilisation has been the scene on which disease has been most active and most prominent, and on which it has exhibited its most ghastly forms.

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* Blane, in Med. Chir. Trans. vol. iv. and in Select Dissertations, and Heberden on Increase and Decrease of different Diseases, 4to. 1801.

CHAP. XIII.

STATISTICS OF CLIMATE IN RELATION TO HEALTH AND DISEASE.

Climatology would fill an entire volume with highly interesting statistical facts, but we can here only select from its domain a few of the details most nearly allied to medicine.

Hippocrates first indicated the path to be pursued in examining the *air*, *waters*, and *places*, and has bequeathed an excellent description and generalisation of those subjects as he found them in his own country, and in the neighbouring ones. Unfortunately the rules which he lays down have been misapplied to explain the circumstances of other regions, and here they have been necessarily found erroneous. The failure is not to be imputed to that original observer, but to those who have inconsiderately wandered from the scene of his remarks. If we select his characteristics of a northern climate, and apply them to the Asturias, a province of Spain seated in the latitude of Northern Greece, we are disappointed on perceiving that the reigning diseases are a species of *lepra*, dysenteries, scrofulous tumours, and other affections

of the nature which Hippocrates attributes to a southern exposure.*

The *exposure* and the *winds* form the basis of the climates of Hippocrates. We may enumerate the following causes of a climate; namely, the action of the sun on the atmosphere; the interior temperature of the globe; the elevation above the level of the sea; the general inclination of the surface, and its local exposures; the positions of its mountains in relation to the cardinal points; the neighbourhood of great seas, and their relative situation; the geological nature of the soil; the degree of cultivation and of population at which a country has arrived; and the reigning winds. †

Malte-Brun has developed an idea of *Kant*, in founding a classification of climates on the principal combinations of qualities which characterise them. An examination of the *four climates* of *Hippocrates* convinced him of the impossibility of founding a classification on their causes, because all these causes vary with geographical circumstances. Heat and cold may be accompanied with moisture and with dryness; we have hence four principal climates.

I. The *warm* and *dry* climate exists in an ex-

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* Thierry, Obs. Médicales sur l'Espagne, and Malte-Brun, Geog. Universelle, t. ii.

† Malte-Brun, Geog. Univ. t.ii. p. 401.

treme degree in the deserts of Sahara and of Arabia: water is here invaluable; men and animals are few in number; the olive tint and bilious temperament predominate among the fierce inhabitants.

II. The *warm* and *moist* climate is that of Bengal, of Mesopotamia, of the coasts of Zanguebar, of Senegambia, of Guiana, of Panama: an eternal verdure embellishes it, and it is the birthplace of the giants of the vegetable kingdom: the reptiles are enormous; the human race is robust, and its generations rapid, but its character approaches the brute; the skin is black, and the temperament phlegmatic.

III. The *cold* and *dry* climate nourishes a vigorous but not luxuriant vegetation: the waters are generally pure, but hard; the animals and the men enjoy strength and health; there is an equilibrium between the moral and physical qualities. Generation is slow but regular: the sanguine temperament and the white skin predominate in this climate, which includes the largest portion of Europe and of Asia.

IV. The *cold* and *moist* climate, in its extreme degree, such as is experienced in Siberia and in the north of Canada, envelopes the atmosphere with unwholesome mists, and reduces vegetation to a few stinted shrubs, and to creeping mosses: the animals are clothed in a thick fur, under which they pass half the year torpidly:

man is large, but feeble and heavy, and is only occupied in defending his physical existence against the severity of nature: the copper-red skin and the melancholic temperament seem to spring from this constitution of climate.*

The temperate *zone* is the most favourable to health, but as its extremities approach the frigid and the torrid zones, they partake of the dispositions peculiar to these; and in proportion as they border more nearly on either, are more subject to the morbific influence arising from vicissitudes of seasons and of weather. Between the 40th and 60th degree the succession of the four seasons is the most regular and the most sensible, without, however, exposing the health of man. It is between these latitudes that the most civilised and prosperous nations are found: the natural term of life is here more generally attained; diseases are less virulent, less rapid in their progress, less unsightly, less fatal.

In forming a *medical* estimate of climate within the temperate zone, we do not balance heat or cold in the scale of latitude so much as we examine *localities*. The neighbourhood of the *sea*, for instance, produces a variety of modifications. In high latitudes, the coasts and the islands are less cold than the interior of con-

* Geographie Universelle, t. ii. p. 422.

tinents. In warm climates, the maritime parts are cooler than the middle of plains. The port of Bergen, in Norway, is not so often frozen as the Seine. The months of winter are much less cold at Plymouth than at Paris. although the mean heat of the year is rather less at the former place than at the latter.* *Mountains* also affect a climate in various ways. The Alps are considered to have an essential part in maintaining the mildness of Italy; and on the contrary, the the central and southern parts of Russia suffer cold disproportioned to their latitude and exposure, partly through the want of a chain of northern mountains, which might weaken the force of the winds coming from the White Sea and the Oural mountains. † But the protection which mountains afford against winds sometimes operates unfavourably: an insupportable heat occurs in some vallies: in those which are deep and narrow, and which receive the dry winds only very obliquely, the air stagnates, there is a perpetual fog, the water loses its purity, and a race of beings vegetates scarcely sensible to impressions, rachitic, scrofulous, and cachectic in a degree which is never witnessed in more fortunate situations. Plains of a moderate height are usually healthy: the lower plains, which are

* Malte-Brun. † Ibid.

contiguous to mountains, lakes, or marshes, remarkably depress our principal organs.

We are compelled to attach a much lower importance to the influence of *climate*, both in health and disease, than was formerly assumed. In Europe, at least, the maladies of the individual appear to depend much more upon his habits and condition, and occasional local peculiarities, than upon the varieties of climate. One of the most important prerogatives of man is his inherent power of accommodating himself to every climate; but this power is modified by the degree of prudence which governs him; and a large proportion of European deaths in tropical climates is owing to the neglect of a suitable diet, and to insufficient self-restraint. Isert (in his voyage to Guinea) attributes the mortality of the Europeans, in that region, to their licentious mode of living, which is totally misplaced in that climate. Niebuhr, also, who saw all the companions of his travels perish around him, remarks, in his account of Arabia, that their diseases arose from their European mode of life, such as eating too much animal food, and exposing themselves to the cold evening air.*

West imagines that females suffer less from

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* Rudolphi, Grundriss der Physiologie, i.

changes of climate than men; but the cause of this is probably due to their more regular, provident, and temperate habits, and to their comparative exemption from exposure to inclemency of weather, or excessive labour.

The stronger and more rapid are the changes of climate the more striking is its influence. Thus we have found it most conducive to the health of our troops not to transport them immediately from England to the West Indies, but to send them, in the first instance, to Gibraltar, in order to accustom them, gradually, to a hot climate. The stranger, indeed, does not usually suffer so much on his first arrival, because his strength is then unenfeebled; but after a time his frame becomes more susceptible through the previous respite. The inhabitant of warmer climates, when transplanted to the North, suffers chiefly from scrofula, in all its degrees. John Hunter used to observe, in his lectures, that nearly all the monkies which are brought into this country ultimately perish through scrofulous affections.

It appears certain that a greater degree of health and longevity is enjoyed in the northern than in the southern countries of Europe and of America; but the superiority of the former in civilisation, prudence, and good government, probably outweighs the variety of latitude. Two of the most formidable diseases with which we

are acquainted originate in a debasement of condition and feeling, the plica polonica, and the pellagra. The plica polonica (says Dr. Kerckhoff) is commonly to be met with among the poor alone, who wallow in filth and misery, and particularly among the Jews, who are proverbially negligent of their persons; he consequently contends, that it is no more endemic to Poland than to any other country. The pellagra is found chiefly in the wretched hovels of the Milanese and Venetian peasantry. It is observed to spread in proportion to the poverty of the times, and seems to spring from a confined air, disregard of cleanliness, and bad food. Mere locality seems alone to produce some complaints; and Dr. Foderé principally ascribes the frequency of goître in the Passes of the Valais to the stagnation of air which occurs in confined and narrow situations. A similar cause is also assigned at Salzburg, where goître is prevalent. In 1806, the proportion of persons afflicted with goître in the department of Mont Blanc, was 1 in 33 or 34 of the whole population. It is found also in South America, at the foot of the Andes, and it is curious to remark that the remedy there empirically employed is a marine fucus.

According to Foderé, the same valley only produces cretinism and goître in its narrow part: as we approach towards the summit of

its side, the inhabitants become free from those diseases.

Dry and elevated countries are most subject to acute disorders; and chronic ones, on the contrary, are more frequent in low and damp situations. Even in the same city this principle is sometimes illustrated; for in the higher part of it few diseases present themselves, and those of an acute kind, while in the lower quarters they are frequent, and more chronic.

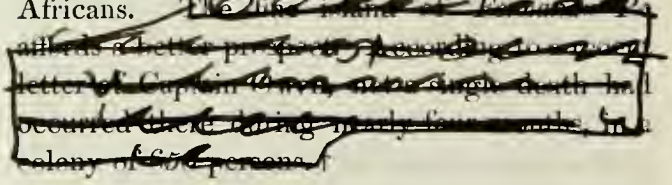
The inhabitants of cities are most subject to nervous affections, scrofula, rachitis, and pulmonary phthisis; while a residence in the country disposes more generally to inflammatory complaints. A long-continued stay in hospitals, prisons, ships, and barracks, predisposes to dysentery, to scurvy, and to dropsy.*

It is only in tropical regions that climate appears to tyrannise over our frame, and to defy the efforts of skill or prudence. Yet even in the epidemic cholera of India, we perceive that the mortality of the European troops is greatly inferior to that of the natives: — 767 soldiers were attacked, and 211 of them died; while of the natives, 4065 were attacked, and 1544 died, which yields a fatality of $27\frac{1}{2}$ in 100 of the troops, but so overwhelming a proportion as 88

* Chomel, Pathologie Générale.

in 100 of the natives. According to the report of the diseases of the *northern* division of the army of the Presidency of *Madras*, for a period of six years, from 1815 to 1820, the proportion of sickness among the European troops was 93 per cent. and amongst the native troops 66 per cent. The proportion of deaths per cent. among the Europeans was 6; among the natives 3. These proportions vary considerably in the different divisions of the army. *

In the tropical fever of Jamaica in 1808 there were 200 deaths in 494 cases.

From the Report of the Commissioners of Inquiry into the State of the Colony of *Sierra Leone*, ordered by the House of Commons to be printed, in May, 1827, it appears, that from the original settlement in 1787 to 1826 the total number of settlers arrived in that colony (including all classes) was 21,944, and of all these only 13,020 remained. It is painful to witness these destructive fruits of a plan originally dictated by the benevolent desire of civilising the native Africans. 

* Annesley, Sketches of Diseases of India, 8vo. 1825.

† Quarterly Review, No. 77. p. 181.

The influence of climate on the diseases of Europe is very conspicuous in one particular point, the great variety in the fatality of different months and seasons to different cities. The observation of Celsus on this head was doubtless formerly applicable to Rome, but it is totally contrary to the actual state of London, where the autumn now appears the most healthy, and next follow the summer, the winter, and least healthy of all is spring.* At Montpelier, on the contrary, March appears one of the most healthy, and August one of the least healthy months. Petersburgh appears to correspond pretty nearly with London. At Paris, also, the greatest mortality occurs in April, and the lowest in July. At Berlin, also, March is the most fatal month, and November the least so. Padua and Milan, on the contrary, coincide more nearly with Montpelier, and with the axiom of Celsus. But this distribution of the seasons in London appears to have only existed within the last 100 years. Graunt observed, at the close of the 17th century, that in London "the unhealthful season was the autumn." It was in that season that the plague, remittent fever, and small-pox, were always most prevalent and fatal. The important improvements which subsequently were effected in the domestic economy of London gradually

* Bateman.

reversed this ancient order: they did not transfer disease from one season to another, but removed the evils of the unhealthy periods, without the addition of any new source of mischief to the others. We can hardly find a happier illustration of the practical benefits of progressive knowledge in promoting the general interests of mankind, nor a better example of the mutual dependence of all arts, sciences, and professions, on each other. Villermé believes that in healthy districts winter and spring are most fatal, and that winter is more fatal in the north than in the south. In marshy countries he finds July, August, September, and October the most fatal months, and that the evaporation of the marshes is most fatal from 1 to 6 years of age.

When we speak of a healthy climate, it is gratifying to reflect that in most instances it is man himself who has in a great measure created these climates of health. Twenty centuries ago, England, France, and Germany, resembled Canada, and Chinese Tartary, countries situated like Europe, at a mean distance between the equator and the pole. Macchiavelli, in his early age, seems to have anticipated this truth: he remarks, in his quaint language, "Unhealthy countries become wholesome by the multitude of men who inhabit them; who at the same time are occupied in cultivating the earth, and who

make the earth sane: the fires which they kindle purify the air: these advantages nature herself does not produce."

It is only by constant efforts of industry that the salubrity of any spot is maintained: when these are relaxed, or when prosperity and civilisation decline, the seeds of disease are immediately deposited in the earth. The aguish disposition has been observed to increase at Rome in the same proportion that its population has diminished. On the other hand, it is well known that the climate of the United States has been remarkably improved by draining, cutting down trees, and the operations of agriculture; and that spots which were impracticable, or fatal to the early settlers, at present afford a comfortable residence. The improvement that is continually taking place in the climate of America proves that the power of man extends to features of nature, which from the magnitude and variety of their causes seemed entirely beyond his control. At Guiana, in South America, within five degrees of the line, the inhabitants, living amidst immense forests, were a century ago obliged to alleviate the severity of the cold by evening fires. But by clearing the surface of the country even the duration of the rainy season has been shortened, and the warmth is so increased that a fire would now be deemed

an annoyance. It thunders continually in the woods, but rarely in the cultivated parts.*

It appears certain that the climate of Europe has undergone a great change. If we compare its actual state with the accounts of ancient writers, a remarkable discrepancy is observed, which can only be explained by the influence of industry on the improvement of the soil; and there is reason to believe that America will partake of the same happy amelioration when an equal length of gradual toil has been bestowed upon her. We are told by Cæsar, that the vine could not be cultivated in Gaul on account of its winter-cold. The rein-deer, now found only in the zone of Lapland, was then an inhabitant of the Pyrenees. The Tiber was frequently frozen over, and the ground about Rome covered with snow for several weeks together, which almost never happens in our times. †

Even on nations exposed to the same scorching sun the influence of *diet* seems to be more powerful in forming the constitution and the character than mere climate, as is evinced in the wide diversity existing between the Hindoo and the Malay. The *nature of the soil* is the earliest element which operates in creating a national character; but religion and government produce

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* Ure's Dictionary of Chemistry, 3d edit. p. 329.

† Ibid.

a second, a more essential, a moral climate, which ultimately determines not merely the health of citizens, but the existence of a state.*

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* See, on the diseases of various climates, *Geographische Nosologie, von F. Schnurrer*, M. D. 8vo. Stuttgart, 1813. and the large work of Finke, cited in the preface; also Annesley on the Diseases of India, 2 vols. 4to.

CHAP. XIV.

INFLUENCE OF VARIOUS CONDITIONS, PROFESSIONS, AND MODES OF LIFE ON LONGEVITY. — AVERAGE QUANTITY OF DISEASE ATTENDANT ON PARTICULAR PURSUITS.

The comparative mortality and longevity of the various classes of society seem to have been formerly balanced by conjecture alone; and it appears to have been even a prevalent opinion, that poverty was favourable to long life; that it exempted from numerous diseases which follow in the train of luxury and wealth, and that the affluent individual, if desirous of attaining to old age, would find it his interest to imitate the habits or diet of the peasant. The contrary has been brought to light during the present century by a rich variety of facts; and the present conclusion is, that, in general terms, poverty, cold, and moisture (which two latter circumstances are generally included in the first), are the greatest enemies to the enjoyment of health and long life, and that competence, or an easy condition, is the strongest safeguard of the body. Of an equal number of infants taken among the poor and the easy classes, it will be found, at least in

France (where the argument has been the most agitated), that the proportion of deaths among the former is double; and that wherever is the greatest portion of misery, there will also attend the largest share of mortality. In epidemic visitations, the mortality begins and ends with the poorer classes, and on these are their principal ravages exhausted. It seems to be partly on this account, that women (at least in England) die in a less frequent proportion, and are longer lived on the average than men, because they are usually more secluded from the conflict of life, are less exposed to vicissitudes of weather, and to severe labour. In France, on the contrary, where the women, in every rank, take a more active part in worldly affairs, and where, among the lower orders, they perform a large part of the manual and out-of-door employments, their mortality (on a late average formed during the six years from 1817 to 1823) appears to be nearly the same as that of the men. Buffon had previously observed, that in most rural districts the mortality of females was somewhat higher than of males, on account of toils unsuited to their frame, which they were there compelled to undergo, and which, it may be added, usually imprint on the female peasant of continental Europe the stamp of old age before she has attained the age of 40.

Mr. Finlaison affirms, that the mortality of

the female sex, at every period of life, is less than that of the male at a corresponding age, excepting under ten years of age, when no difference appears between the two; and also in extreme old age, as when beyond 85, when he likewise perceives no distinction. Dr. Price and other writers have considered that the two periods of life most fatal to women were from 45 to 52, and from 20 to 35. But all Mr. Finlaison's observations lead him to a conclusion directly opposite, namely, that the mortality of females is less between 30 and 35 than at 20; and that there is no foundation for the belief that it is greater from 45 to 52.

In the Paris tables of mortality for the year 1818, it appears that the mortality of women is not greater at the *critical* period of life than at any other, and that it increases at an advanced age.

The conservative tendency of an easy condition is strongly marked by the very inferior degree of mortality and of disease which occurs among persons insured at the various life-offices. The Equitable Office had always employed the corrected Northampton tables of the probabilities of life. But Mr. Morgan, the actuary, found in 1810 that the actual deaths which had occurred among 83,000 persons insured during 30 years was in the proportion of only 2 to 3 of what had been anticipated by the tables. And

among these *selected* lives the mortality of the women is still less than that of the men; because in the middle classes they enjoy a remarkable exemption from fatigue and difficulty. To illustrate the low rate of mortality among such picked lives, or among persons in the enjoyment of competence, it may be mentioned, that the annual average of deaths amongst the persons insured at the Equitable from 1800 to 1820 was only about 1 in 81½. Of 1000 members of the University Club, only 35 died in 3 years, which is a still lower rate, about 1 in 90 annually. Of 10,000 pupils who passed in different years through Pestalozzi's institution in Switzerland, it is even asserted that not one died during his residence there. These were youths chiefly, but of all countries, constitutions, and ages; generally, it is to be observed, of easy circumstances. Pestalozzi, also, paid particular attention to their bodily exercises.

On the other hand, let us observe how great is the mortality of man in his lowest state of want and degradation. It was formerly computed that a 5th or 6th part of the negro slaves died annually. The free Africans who serve in our troops have been said to lose annually only 3 men out of 100, while the slaves were losing 17 in 100. At present, however, their mortality decreases in proportion to the superior care taken

of them: of about 20,000 slaves landed at Rio Janeiro in 1823, only 1400 had died on the voyage; which would still form an enormous proportion for Europeans, but is a happy contrast to the former returns of a slave-ship.

In *schools* the annual number of deaths is very small, as might be anticipated from the age at which they are generally frequented. A considerable difference would probably be found between the mortality of *civic* and of *rural* schools.

The annual average of deaths at Christ's Hospital, in London, during the 40 years ending in 1799, was 1 in 150. The mortality of Heriot's Hospital, at Edinburgh, (which is composed of children from the age of seven to fourteen) has been only 1 in 235, on an average of the last 17 years. The annual deaths at the Edinburgh *High School* and *Academy* are only 1 in 833: the pupils are the children chiefly of the middle and higher classes, and many live in the houses of their parents; circumstances which have a more powerful influence than is generally estimated on health and longevity, and which are strongly illustrated by the above fact.

During the terrible progress of epidemic fever in Ireland, in the years 1817, 1818, and 1819, it was generally remarked throughout the country that fever did not spread through

families in comfortable circumstances; and, indeed, it might be asserted, that the danger of such extension diminished accordingly as the persons visited by sickness were more elevated in society. While fever raged in almost every part of Ireland, it is curious to remark that the *army* suffered comparatively little from it, because the private soldier is better fed, lodged, and clothed than the peasant of Ireland. The prevalence was nearly twice greater among the inhabitants than among the army. *

Duvillard has ascertained in France that the mortality of the married is less than that of the single; and a similar result appears to have been observed elsewhere.

Cultivation of the sciences appears particularly favourable to longevity, in spite of various assertions formerly made to the contrary: it almost seems that the man who labours chiefly with his mind has a fairer prospect of life than the one whose body alone is occupied. Franchini† has enumerated 104 Italian mathematicians of different epochs: he has ascertained the ages at which 70 of these died, and among the 70 are 18 who had attained the age of 80, and

* Barker and Cheyne, Account of the Fever lately epidemical in Ireland. 2 vols. 8vo. London, 1821.

† Saggio della Storia delle Matematiche. Lucca, 1821.

2 of 90; and this, too, in a southern climate, which is not generally very favourable to old age. In France 152 men of science and letters have been taken at random: half the number appear to have cultivated science, and about half to have been devoted to general literature: on adding together the age at which each had died, it was found that the average result would be above 69 years for each of the 152 individuals.*

On the mortality of particular trades very few materials exist, although many remarks are to be found on the diseases to which they are subject.†

A statement has been lately published of the deaths which occurred among a society of fifty *plumbers*. During seven years 14 members have died, all under 36 years of age, and through diseases induced by their business.

Dr. Alison believes that there is hardly an instance of a *mason* regularly employed in hewing stones at Edinburgh living free from phthisical symptoms to the age of 50.

It does not require much reflection to perceive that *want*, or privation, not merely shortens the

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* Berard, Discours, &c.

† Ramazzini, De Morbis Artificum. Also the French translation, with notes, by Patissier. Also Gosse, in the Quarterly Journal of Foreign Medicine and Surgery, vol. ii.

natural term of life, but that it has a tendency to produce several diseases, some of which, when once formed, gradually communicate themselves to those who are placed in more fortunate circumstances. The greater part of epidemic diseases in Europe originate in an impoverished state of the lower orders, by whatever cause induced. A season of scarcity, the march of armies, war, or the absence of accustomed employment, all conspire to generate among the poor a disease which often reaches to the rich; and if other arguments could not supply attention to the necessitous part of society, expedience, and consideration of self, must always render it abundantly politic on the part of the opulent to anticipate and remedy the effects of such casualties. Maclean declares that scarcity is the most powerful auxiliary cause of the *plague*. Even in 1758, when a scarcity existed in England, which was considered not real, but artificial, Sir R. Manningham, a physician of London, thought it necessary to call the attention of the public to the danger of an impending pestilence. He observes, that "the plague of pestilence may be much easier produced in this country by an artificial famine than by any infection of the plague itself from foreign parts." We must conclude with Dr. Heberden, *junior*, that the presence of infectious

matter is not alone sufficient to make the plague epidemical, but that some concurrent state of the air, and of the human body, is likewise necessary; and that our long exemption from this evil is not so much to be attributed to any accidental absence of its exciting causes, as to our own change of manners, our love of cleanliness and of ventilation, which have produced amongst us, if not an incapability, at least a great unaptness, any longer to receive it.

The superior health enjoyed by the British *army* and *navy*, when at a distance from their own home, has often been a subject of surprise and exultation. We will go back above half a century, and quote the sentiments of an eminent foreigner on this subject. Alluding to the events of the Seven Years' War, *Müller* remarks that "the resources of military talents were never more successfully applied by any modern people than by the Britons during that contest: so much care was taken to provide for all the wants of the soldiery, that the ordinary mortality *among the wounded*, was not more than 1 in 20; and out of 14,000 men who were employed in the year 1760 in cruizing in the Bay of Biscay, scarcely 20 were attacked by disease."

If we follow the steps of the late war, we shall find one remarkable anecdote which requires no comment. During the ten months from the

siege of Burgos to the battle of Vittoria inclusive, the total sick and wounded which passed through the hospitals was above 95,000. But through the exertions of the medical officers, the army took the field preparatory to the battle with a sick list under 5000. But this was not all; during twenty successive days it marched towards the enemy, and in less than one month after it had defeated them, it mustered, *within* 30 *men*, as strong as before the action, and this, too, without any reinforcement from home.* No general, most assuredly, either of modern or ancient times, has ever been so deeply indebted to his medical companions as the commander of our Peninsular troops. Even in the Portuguese hospitals, they accomplished the most important improvements; and the hospital occupied by our royal artillery at Lisbon (a place the most hostile to cleanliness) is characterised by Dr. Carter as a model of neatness and good order. †

Even on the barren rock of Gibraltar our garrison has been trained to the enjoyment of a more secure existence than that which is enjoyed by some cities on the Continent. It appears from a recent report, that its mortality was only 1 in 48 (exclusive of the years in which epidemic fever prevailed).

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* Edinb. Med. Journal. January, 1820.

† Short Account of Hospitals. Lond. 1819.

It may be not uninteresting to compare with these facts the fate of the disabled soldier in remoter times. Xenophon, Cæsar, and Polybius, who are very copious on the details of war, make no mention of hospitals of any kind; and one of the commentators on Vegetius intimates that each Roman legion (containing three thousand or four thousand men) had *one* medical officer alone attached to it.*

To mark the improvement of health in our navy, we may compare the fate of Commodore Anson's crew with a ship placed in similar circumstances 50 years after. Anson was 143 days at sea without touching at any place of refreshment. On his arrival at Juan Fernandez, half of his companions alone survived; and of the remaining 200, only eight were capable of duty. But in 1794, the Suffolk, a 74 gun-ship, passed 162 days also without any communication with land, and arrived in India without the loss of even one man, and with no case of scurvy, or of any other dangerous disease, at the time of disembarkation. The success which attended the efforts of Cooke, and subsequently of Captain Parry, in checking the inroads of disease upon their crews, is universally known. So great a change has thus been wrought in the

* Blane, Select Dissertations.

effective strength of our sailors, that two ships of war are computed to be now capable of more service than three of the same rate under the former system. The total mortality of the whole British navy, in all parts of the world, including those who were lying in hospitals, was, in 1813, only 1 in 42. *

On the other hand, we must assign a portion of the good health enjoyed by our army and navy to the influence of *moral* causes, such as national spirit, and general success. The operation of moral causes on the health of soldiers was strongly evinced in the French army during its disastrous campaigns of 1813 and 1814: the number of its diseases preserved a terrible proportion to its losses, and augmented with every failure. †

With respect to the average quantity of sickness prevailing in our *army*, it appears from the official returns at the Adjutant-General's office, that, in 24 monthly musters of 313,695 men, all under 50 years of age, there were 14,049 disqualified for military duty by indisposition; from which it results that each man, on an average, suffered $2\frac{33}{100}$ weeks' sickness in the year. Supposing that, after the age of 50, the sickness in the army should follow the course of

* Blane, Select Dissertations.

† Chomel, Pathologie Generalé.

mortality indicated by the Carlisle tables (which apply to a population in mass), the result would be, from 50 to 60, above four weeks' illness, and from 60 to 70, above eight weeks' illness, during the year.

If this rate be compared to that which seems to occur among the members of *friendly societies* (chiefly composed of artisans and agricultural labourers), the advantage is much in favour of the latter. The Highland Society reports the average of sickness under the age of 50 to be only ·76 decimal parts of a week; between 50 and 60 to be $1\frac{88}{100}$ weeks, and between 60 and 70 to be $5\frac{63}{100}$ weeks, in every year.

Messrs. Finlaison and Davies, after much consideration, are of opinion, that this report of the Highland Society falls short of the proportion of sickness which would be experienced in the practice of friendly societies in *England*, in the same degree that the sickness of the army is excessive. They are, therefore, satisfied, that a mean between the two would be a very near approximation to the sickness that in reality occurs. Such a mean exhibits $1\frac{55}{100}$ weeks under the age of 50; $2\frac{91}{100}$ weeks from 50 to 60, and $7\frac{21}{100}$ weeks from 60 to 70, in every year. *

* Report made by Messrs. Finlaison and Davies, in answer to the reference made to them by the Committee on Friendly Societies. Printed by order of the House of Commons, 1827.

The number on the sick list of every army appears much larger than the proportion which occurs in other classes of life; but, on the other hand, the *deaths* of a military hospital are uniformly far less numerous than those of a civil one. This may partly depend on the reluctance of the labouring classes to enter a hospital, except in extreme cases; and on the natural promptitude which disposes the private soldier to escape duty, and to improve his fare, by becoming the inmate of a residence more comfortable than his usual one. The examination of the bodily condition of the soldier, before his admission, and the composition of an army, which excludes both extreme youth and advanced age, as well as the regularity of exercise and of hours, concur to produce a very simple catalogue of diseases, and a disposition to recovery, such as is seldom, if ever, witnessed in general hospitals.

Soldiers appear to enjoy a better prospect of longevity than sailors, and this is probably owing to their inferior exposure to severe labour, inclemencies of weather, and privations in the article of food. The mortality of Greenwich Hospital, on an average of 10 years, is about 240 annually in 3000 men. At the Hospital of Chelsea the mortality is less considerable, but the amount is not in my possession. At Chelsea, however,

the number of invalids is small in comparison, and we are always to bear in mind the tendency of large accumulations of individuals to detract somewhat from the chances of health and of life.

CHAP. XV.

STATISTICS OF THE SEXES.—COMPARATIVE FRUITFULNESS OF MARRIAGE IN VARIOUS COUNTRIES.

Hufeland asserts, from extensive examination, that the relative numbers of the sexes are in all parts of the world the same, namely, 21 males to 20 females. But a greater number of still-births generally occurs among males, and there is also a greater mortality of males in infancy; so that at the age of 14 or 15 the sexes are nearly equal.

According to Casper, the proportion of females to males, among the still-born at Berlin, is so remarkably small, that in every 48 still-births 28 are males, and only 20 of the other sex, but this minority is not universal. In the kingdom of Hanover the proportion has been nearly equal, or exactly adapted to the relative numbers of the sexes.

The proportion of males to females born at the Dublin Lying-in Hospital, during 70 years, has been about 12 to 11.

Some travellers have imagined, that in warm climates a greater number of females is born than of males; an idea, probably, originally excited by the number of women who are secluded

in the mansions of the richer inhabitants of the East. On reports of this nature, Montesquieu concluded that polygamy is excusable in certain regions. But we are not aware of a single statistical fact which has been brought to support the theory; while, on the other hand, from the registers of baptisms preserved by the Danish missionaries of Tranquebar, from the lists formed by the Dutch at Amboyna and at Batavia, and from the information procured at Bagdad and at Bombay by Niebuhr, we have every reason to believe that the proportion of the sexes is the same in the East as in Europe.

Some curious facts have been communicated to the French Academy of Sciences by M. Giron de Buzareingues, relative to the inequalities which occur in different departments of France, in the proportion of male and female births. Of course they are not cited here as establishing a general principle: their value must be determined by a series of observations in other places.

M. Giron has made several experiments on sheep, horses, and birds, which indicate, that when the male is too young, and the female in full vigour, the proportion of female births exceeds that of male, and *vice versâ*. He affirms that, by attention to this circumstance, we may at will produce an excess of males, or of females, in our flocks, studs, and poultry-yards.

Pursuing these enquiries with regard to the

human species, he divides individuals into different classes: the first is composed of persons whose employments tend to develope their bodily powers; the second, of those whose business tends to enervate; the third, of those whose occupations are of a mixed description. He found that in the first class the number of male births exceeded the average proportion of male to female births throughout France; that in the second class the number of female births exceeded the average proportion of female to male births throughout France; and that in the third class the proportion of male to female births was nearly the same as the average proportion throughout France.

He arrives at the conclusion, that the pursuits of agriculture tend to the increase of the male population, and that the habits of commerce, and of manufactures, favour an augmentation of the female population.

The variety in the proportion of births to a marriage in various countries is a subject of discussion which it is far more easy to lay before the reader in detail than to explain. M. Benoiston de Chateauneuf has lately read before the Academy of Sciences at Paris a most elaborate memoir on this topic. We shall avail ourselves of many of the facts which he has stated, without repeating his conclusions, which do not always correspond with the examples:

he believes, for instance, that the fecundity of marriage is less in those countries which are deficient in agriculture, industry, or liberty, whereas we shall perceive a contrary tendency in most of the following examples.

In England, from 1800 to 1810, the proportion of births to marriages, as corrected by Malthus, was 4 to 1, and from 1810 to 1821 about 4·22 to 1.

In France the proportion of births to a marriage is 4·21.

In Holland, 4·20.

In Scotland, 4·2. (M. Chateauneuf finds this to have been the general average for the ten years ending in 1793, from comparing the tables contained in 17 out of the 21 volumes published by Sinclair on the Statistics of Scotland.)

In Prussia, according to Hoffmann, $3\frac{1}{8}$.

In Wirtemberg, according to Memminger, $4\frac{13}{20}$.

In Sweden, 3·62.

In Russia, 5·25.

In Portugal, 5·14.

In the province of Bergamo, 5·24.

In the government of Venice, 5·45.

In Savoy, 5·65.

In the canton of Friburg, 5·35.

In Bohemia, 5·27.

The proportion of the southern provinces of France is 4·34, but of some of the northern only

4·00. This was also observed to be the case fifty years ago. M. Chateauneuf inclines to the opinion, that fecundity is greater in the south than in the north.

At St. Domingo, in 1788, three marriages only afforded an average of two births among the blacks, while the average of births to the whites was three to each union.

Within the limits of every country numerous varieties exist. At Paris the average is scarcely 2.44, while in some villages of Scotland it is so high as 7.

Some of these estimates, however, are differently given by other writers; and altogether it is a subject on which it would be at present premature to generalise.

Mr. Sadler proposes to demonstrate, that the fecundity of human beings is, *cæteris paribus*, in the inverse ratio of the condensation of their numbers, and that the variation in that fecundity is effectuated not by the misery but by the happiness and prosperity of the species. He promises in a future work to produce the details on which this view is founded.* Muret†, so long ago as 1766, appears to have entertained a somewhat similar opinion. He was astonished at finding that the proportion of births in the

* Ireland, its Evils, and their Remedies. 8vo. Lond. 1828.

† Mém. Soc. Economique de Berne.

Pays de Vaud was much less than in other countries, although the duration of life was greater; and came to the conclusion, that healthy countries, having less fecundity, will not over-people themselves; and that the unhealthy countries, by their extraordinary fecundity, will be able to sustain their population. We shall pursue this subject in the ensuing chapter.

CHAP. XVI.

APPLICATION OF MEDICAL STATISTICS TO ILLUSTRATE THE PRINCIPLE OF POPULATION. — CONCLUSION. — GENERAL PRINCIPLES.

WHEREVER registers of births, deaths, and marriages have been kept for a long period, it has been uniformly found that improvement in the public health, and the absence of epidemics, have been attended by a diminished proportion of marriages and of births. In the degree in which a nation advances in prosperity and civilisation, premature and imprudent marriages become less frequent, and the number of births is accordingly lessened. Thus in England the annual proportion of marriages has diminished since the early part of the last century, when it was estimated at 1 amongst 115 individuals. The census of 1801 lowered the proportion to 1 in 123, that of 1811 to 1 in 126, and, finally, in 1821 we find only 1 in 131. Accordingly the proportion of births was in 1801 as 1 in 34·8 of the population, in 1811 it was 1 in 35·3, and in 1821 only 1 in 36·58. Malthus remarks, that "marriages, births, and deaths diminish generally in proportion to the increasing healthi-

ness of a country;" and we have had repeated occasion to remark the connection and re-action which subsist between the prosperity and the health of a country or city.

Süssmilch has given many instances of this gradual diminution of marriages, which evince the dependence of the marriages on the deaths in all old countries.* These views are so calculated to dispel the apprehensions which a superficial observer might entertain of the future overgrowth of population, while viewing the gradual improvement in the tenure of life, that I shall wander a little from my road to produce the consolatory reflections of *Say*, one of the leading authorities in Political Economy, and assuredly no juvenile enthusiast. "Independently of those causes which, in different states, destroy the proportion between the number of births and that of the population, there is another cause which, in a particular country, totally changes this proportion, — it is the mean duration of life. In fact, as the number of men cannot exceed their means of subsistence, *if men live longer, a less number is born*, and the human race is maintained at its complement with fewer births and with fewer deaths, a contingency much more favourable to its happiness. That the duration of the mean life has become prolonged among the

* Malthus, Suppl. Encyclopæd. Brit. art. Population.

chief part of the civilised nations of the globe, is a fact which can no longer be doubted. Since we have used linen next to the skin instead of wool*; since we have inhabited more airy dwellings; since we have paid more attention to cleanliness, and bestowed more enlightened cares on infancy; since we have learned to remedy evils formerly incurable, and to prevent the invasion of certain diseases like the small-pox, — the life of man is sensibly lengthened. This is not the reason which makes the population more numerous (for such an effect never takes place permanently, except by means of an augmentation of production); but it is the reason that causes a certain number of people to renew themselves less frequently. There are very great advantages in this new form of our peopling; but it is not my present object to explain them; I have remarked on them elsewhere.† Several positive and curious facts confirm this observation. We know, for instance, that the population of Paris has considerably increased since the middle of the eighteenth century. It did not then amount to 600,000 souls;

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* La Reine Isabeau de Bavière, femme de Charles VI., fut la première personne en France qui porta des chemises de toile. Auparavant, on avait des chemises de serge, et les maladies de la peau etaient bien plus fréquentes et plus difficiles à guérir. (*Say.*)

† Traité d'Economie Politique. 3d ed. ii. 391.

it now exceeds 800,000. Nevertheless, the number of births is scarcely increased! *Lalande* finds that the mean number of annual births from 1745 to 1756 was 23,391; and the mean annual number of births in the years 1817—1821, was only 24,214; that is to say, only 823 births more than at the former period. The population has increased one third, and the number of births one twenty-eighth part. One child was formerly born amongst $25\frac{65}{100}$ inhabitants; and at present there is only one child born amongst more than 33 inhabitants. We may make a similar observation on the movement of the population of London."*

The researches of Mr. F. Villot† tend to mark the later period at which marriages are contracted in an advanced state of society, and the less considerable number of births which is likely to result. On examining the marriage-registers of Paris kept during the eighteenth century, he finds, that the average age of the man at the moment of marriage was about 29 years, and that of the woman about 24 years. The average age of the father on the birth of *a son* was about 33 years, and of a mother about 28 years.

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* Revue Encyclopedique. Sept. 1827.

† Memoir read at the Acad. of Sciences, in July, 1828, by F. Villot, Archivist, and Director of the Statistical Office of Paris.

After enumerating so many varieties in the distribution of mortality, it remains to consider shortly the causes which diminish it, and which, in our own country, have rendered that diminution so conspicuous.

The *particular* causes have been generally admitted for some years: such as improvements in ventilation and in the general economy of hospitals; the common adoption of a more rational treatment of disease, and particularly of the antiphlogistic plan, which, under various names, has acquired an almost universal currency. The particular causes chiefly affect disease already formed, and promote a favourable termination.

The *general* causes act on the entire mass of a nation, and operate in the prevention of disease. Some of these have already been the subject of remark.

Among the general causes, the increase of commercial and agricultural industry has multiplied the comforts of the lower classes, and has enabled them to procure a more spacious dwelling, more frequent changes of clothing, and more abundant and more wholesome food; insomuch, that the average mortality and health of every nation are mainly determined by the degree in which its government has encouraged these pursuits, or has checked their free course. So intimate a connection subsists between po-

litical changes and the public health, that wherever feudal distinctions have been abolished, wherever the artisan or the peasant have been released from arbitrary enactments, there also the life of the lower classes has acquired a new vigour; and it is certain, that even bodily strength and the power of enduring hardships are divided among the nations of the earth in a proportion relative to their prosperity and civilisation. *

We may easily conceive the different constitution of body and of mind which is likely to grow upon the unemployed inhabitant of a decayed city, who gloomily wanders without an object through silent streets whose pavement is choked with grass; and upon the active citizen who feels himself a constituent member of a flourishing community, and who is attracted on all sides by invitations to the exercise of his faculties.

It is indisputable, that the average proportion of deaths in England and her cities is less than that of any other country of Europe. And it

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* The experiments which Péron made with Regnier's dynamometer illustrate this assertion. The details are seen in his *Voyage aux Terres Australes*. He found that the natives of New Holland are stronger in the hands and loins than those of Van Dieman's Land, the natives of the Isle of Timor than those of New Holland; but the French were stronger than all these, and the English were stronger than the French.

may be added, that the powers of body and of mind are preserved to a late period in higher perfection here than in other countries: nowhere are the advances of age so slowly perceived, and nowhere so little manifested on the exterior. An analogous condition of health and vigour may be also observed in our animals and in our vegetation; and if it should be replied, that this excellence is owing to the care bestowed on their culture, the answer applies equally to the human being, on whom more attention is here bestowed, and who is really an object of greater value here than elsewhere.

If political and moral circumstances actually possess so preponderant an influence on the production of disease, and on the guidance of its fatality, it seems to be incumbent on our profession to study their progress, and to profit by their results. A peculiar set of diseases appears to belong to every age, and it may be almost affirmed, that there is also a mode of treatment adapted to every age. But the science of medicine, purified from obsolete mysteries, no longer idly promises to extend existence beyond the term originally assigned to it, and only endeavours to conduct the feeble and the unfortunate in safety to the natural boundaries of their present being. And altogether we must conclude, that the causes which shorten life

are generally those which render it miserable; and that wherever a people enjoys a higher degree of prosperity, of rational freedom, and of moral dignity, there also will a greater number of individuals reap the full harvest of their years.

THE END.

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739 **Hawkins** (F. Bisset, *M.D.*) Elements of Medical Statistics ; Containing the Substance of the Gulstonian Lectures . . . with Numerous Additions, Illustrative of the Comparative Salubrity, Longevity, Mortality, and Prevalence of Diseases in the Principal Countries and Cities of the Civilized World. London, Longman, Rees, etc., 1829 18s

8vo. 234 pp. Calf gilt.

Dr. Hawkins was an early pioneer of comparative statistics, and of placing the result of far-scattered effort side by side. "I am not aware," he says, "of the existence of any work in the literature of Europe, which treats the subject in all its parts, or which takes so extensive a range as the present."